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Most Grades of Paper Show Increase In 1929

According to Reports Furnished the American Paper and Pulp Association Uncoated Book Increased 10 Per Cent, Paper Board 9 Per Cent, Writing 8 Per Cent, Building 6 Per Cent and Bag 2 Per Cent—Wrapping Decreased 5 Per Cent, Hanging 3 Per Cent and News Print 2 Per Cent—

The total production of paper in 1929 was 6,852,773 tons, according to reports received by the Statistical Division of the American Paper and Pulp Association from members and cooperating organizations representing approximately 70 per cent of the total United States productive capacity. The following grades showed increases in their total 1929 production as against that of 1928; uncoated book 10 per cent, paper board 9 per cent, writing 8 per cent, tissue 7 per cent, felts and building 6 per cent, bag 2 per cent, and total, all grades 5 per cent. The following paper grades showed decreases in their total 1929 production as against that of 1928: wrapping 5 per cent, hanging 3 per cent, and news print 2 per cent.

The total shipments of paper in 1929 exceeded those of 1928 in all grades excepting wrapping and hanging. Shipments of all grades in December, 1929, excepting paper board, wrapping, bag, writing and tissue papers, increased over December, 1928, the total shipments being less than 1 per cent below the total of December, 1928.

All grades, excepting news print, uncoated book and hanging papers, registered increases in inventory at the end of December, 1929, as compared with November, 1929. As compared with December, 1928, all grades, excepting uncoated book, paper board, writing, felts and building and hanging papers, showed substantial decreases in inventory.

The total production of pulp in 1929, according to reports received by the Statistical Division of the American Paper and Pulp Association from members and cooperating organizations representing approximately 60 per cent of the total United States productive capacity, was 2,597,059 tons. The following grades showed increases in their total 1929 production as against that of 1928: bleached sulphite 8 per cent, news grade sulphite 6 per cent, kraft 5 per cent, soda 4 per cent, and ground wood pulp 2 per cent. Easy bleaching sulphite pulp was the only grade that showed a decrease in its total production in 1929 as against that of 1928.

All grades of pulp excepting news grade sulphite, and mitscherlich sulphite, showed decreases in inventory at the end of December as compared with the end of November, 1929. As compared with December, 1928, all grades, except bleached sulphite, easy bleaching sulphite and kraft pulp, registered substantial decreases in inventory.

Shipments to the outside markets in December, 1929, of all grades of pulp, excepting news grade sulphite, mitscherlich sulphite and kraft pulp, were above those of December, 1928.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF DECEMBER, 1929

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	112,583	117,131	19,023
Book (uncoated)	87,689	88,312	43,234
Paperboard	171,293	165,208	62,008
Wrapping	44,957	44,064	47,894
Bag	10,192	9,707	6,061
Writing	28,225	25,746	43,078
Tissue	11,720	10,676	8,775
Hanging	6,011	6,196	3,622
Felts and building	4,428	4,407	3,138
Other grades	24,963	24,446	17,661
Total—All Grades	502,061	495,893	254,494

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF DECEMBER, 1929

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	82,240	80,570	3,685	43,932
Sulphite news grade	35,492	31,418	3,730	6,853
Sulphite bleached	25,395	23,120	2,499	3,155
Sulphite easy bleaching	3,465	3,134	334	1,061
Sulphite Mitscherlich	7,040	5,925	867	1,164
Sulphate pulp	25,503	21,965	3,699	6,235
Soda	23,410	15,248	8,203	3,560
Pulp—Other grades	40	.....	72	22
Total—All grades	202,585	181,380	23,089	65,982

South Glens Falls Plant May Close

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., February 24, 1930.—It was announced here that the South Glens Falls plant of the International Paper Company will be shut down for an indefinite period. The plant has been in operation since the latter part of January turning out news print paper and the orders to suspend operations was somewhat of a surprise. It was learned that there is sufficient stock on hand to continue operation of the two large machines at the mill for about three weeks which means that it will shut down early in March throwing about 200 hands out of work.

The plant had not been used in the manufacture of news print for more than two years prior to resumption of operations last month, the major section of the mill having been used by the Veldown Company. The manufacture of Veldown products has been carried on a large scale but lately the number of employees has been reduced because of market conditions. The Veldown Company is a branch of International. The recent announcement that news print would be made in South Glens Falls followed a controversy between the International Paper Company and the Canadian government over the price of paper manufactured in Canadian mills.

Outlook for News Print Industry More Hopeful

Arrangement Believed To Be In Sight Whereby International and Other News Print Interests Will Manifest Fuller Degree of Co-Operation — Renewed Interest In Pulp and Paper Securities Most Significant Factor In Situation—Rapid Expansion of Powell River

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., February 24, 1930.—If the old maxim holds true, that "the ticker tells the tale," then there have been some constructive developments during the past week in the news print situation, for despite new lows for many standard securities on the local stock market, renewed interest and higher prices are recorded for the securities of leading pulp and paper issues. What developments, if any, there have been nobody seems to know, but the general inference is that some sort of arrangement is in sight whereby a fuller degree of co-operation between the International Paper Company and the other news print interests will be manifested in the future in measures for putting the industry on a better financial basis.

This renewed interest in pulp and paper securities is all the more significant in that it occurs at a time when the Canadian paper output has dropped to the lowest level since February, 1929, production having dropped to 71.4 per cent of capacity. As against this American mills recorded a sharp gain in production.

This is thought here to have been the result of the International's policy of temporarily converting some of its mills in the United States to the production of news print, as an answer to the attempt that was made to force it to pool its orders in order that there might be an equal distribution of the tonnage among the mills in Canada. This attempt, as is known, failed, and Premier Taschereau recently announced that the company had agreed to revert to production of paper other than news print in the American mills where news print production had been resumed, in return for a recognition of its right to a free hand in dealing with its orders. As a result, the International's mills in this province are now running at 100 per cent capacity, while some of the Canadian mills are down to about 70 per cent.

Re-Organization of Paper Making School

A delegation representative of the news print industry in the Province of Quebec has been in conference this week with the Hon. Honore Mercier, Minister of Lands and Forests, and G. C. Piche, chief of the Forestry Service, with a view to bringing about a reorganization of the Paper Making School at Three Rivers, Que. With the federal grant for technical education withdrawn on one hand and the need of enlarging the school to meet the needs of the trade, especially at a time when the best of technical skill is required, on the other, the minister will be approached with two main demands, first, that the provincial Government make financial provision for carrying on the school; secondly, that the news print industry be represented on the board of direction in a wider way so as to help the Government in giving the school a wider scope.

Mr. Piche, in anticipation of the demands of the delegation, prepared a report on the subject for the benefit of the minister. The school has been in operation since the fall of 1922, and has had much success judging by the annual reports, and Mr. Piche in his present report to the minister emphasizes the fact that the advisory committee continues to aid the school, faithfully and generously. The committee is composed of I. H. Copeland, representing the Canadian International Paper Company; R. G. Wilen, of the Wayagamack Paper Company; L. C. Anderson, of the St. Lawrence Paper Mills; C. D. Jentz, of the Canada Power and Paper Company; J. N. Stephenson, editor of the *Canadian Pulp and Paper Journal.*

After pointing out that the school has been growing rapidly, Mr. Piche said that for a considerable time it has been recognized that the school must have a wider scope; but in order to bring this about, it has been essential that it receive still further approval from the industry to the benefit of which it is devoted. This further approval was given a short time ago, when the members of the technical section of the Canadian Pulp and Paper Association visited the school, minutely examined the courses of study, and officially endorsed a program of enlargement for the school.

Enlargement of the school and increase in its equipment are now necessary, and the face of the fact that the federal subsidy came to an end in May last, reorganization is necessary.

The act of 1929 provided for the expenditure of $30,000 payable out of the revenue fund for the papermaking school, and an annual grant of $25,000 for maintenance of the school. The sum of $50,000 which the Government provided for research work was never taken advantage of, the additional funds coming from the federal Government and from the aid given by the news print manufacturers.

The prospects are that the Government will co-operate with the news print interests in putting their proposals into execution.

Powell River Co.'s Expansion

The expansion program of the Powell River Company, Ltd., of Powell River, B. C., with a view to bringing its capacity up to 1,000 tons of news print per day is being pushed forward rapidly. The plant now has a capacity of 200 tons per day. The company is now engaged in water power development on the Lois River, from which a 17-mile transmission line will carry power to the paper mill at Powell River.

Crews are now excavating at the site of the temporary dam, which will raise the level of Lois River and the two lower lakes of the Gordon Pasha chain, and later serve to facilitate construction of a larger concrete dam further downstream when the second unit of the project is got under way.

Powell River Company is now producing news print for most of the countries bordering on the Pacific, including South America, the Orient and Australia, and recently has made shipments to South Africa. Regular customers are also in the West Indies and the Argentine and Brazil. Growing demand in these countries made the present expansion program imperative.

Duke-Price Earnings

The annual statement of the Duke-Price Power Company, whose water powers on the Saguenay River are closely associated with important news print interests, shows that net income available for bond interest amounted to $3,437,984. This compares with $3,395,760 in the previous year.

After taking care of bond interest, other interest charges, depreciation, etc., there remained a balance of $320,327. This was less than in 1928, when surplus totalled $349,260. Consequently per share earnings dropped from $1.66 to $1.52.

Threatened Celotex Invasion

Representatives of the Canadian Pulp and Paper Industry have appeared in full power at Ottawa to oppose an application for the removal of the customs duty on bagasse of sugar, which is the raw material of celotex.

The application was sponsored before the Advisory Board on Tariff and Taxation by Alexander Murray & Co., Ltd., of Montreal, which concern said they would erect a million dollar plant

near Quebec city for the manufacture of celotex if they were assured of the free importation of their raw material, which is a by-product of the sugar cane and comes from the southern states. At the present time celotex is shipped in large quantities to the Canadian market from the United States factory and competes with such widely-advertised Canadian insulating materials as insulex and ten test.

The Montreal company were supported in their application by American manufacturers and by the Consumers' League of Canada, while arrayed against them were a score of Canadian pulp and paper manufacturers and manufacturers of Canadian insulating materials, members of Parliament such as Charles Power, of Quebec, and Boards of Trade and other organizations in Western Canada, where wheat and flax straw are used as the raw material of insulating boards. Letters opposing the application were also read from the deputy Minister of Agriculture of Saskatchewan and several agricultural societies on the prairies, as well as the Quebec Department of Lands and Forests.

The Canadian Pulp and Paper Association opposed the abolition of the duty because its members supply pulp screenings and paper for the manufacture of such board produced by the International Fibre Company, Beaver Board, and the Canadian Power and Paper Company. The basic ground of its objection to the granting of the application was the unlimited quantities of waste material suitable for the making of insulating material and construction board that are available in Canada. Free admission of foreign waste would displace materials available in Canada. It was estimated by this association that no less than $5,000,000 is today invested in plants for the manufacture of this fire-proof and insulating board. Profits obtained from the utilization of these hitherto waste materials is of substantial assistance in the carrying on of primary operations of producing paper and lumber, it was stated. Price Bros. & Co. in 1929 completed the erection of an insulating board mill, with an annual capacity of 45,000,000 feet at a cost of $1,000,000 for the purpose of manufacturing insulating lumber from wood by-products of the pulp and paper industry that would normally be waste material. The fact that extensive research in the matter has been proceeded with was demonstrated in evidence given by Dr. Bates, research engineer for Price Brothers, who gave a complete list, detailing the composition and the merit in terms of quality as to the insulation and sound absorption of the many insulating boards on the market.

Mr. Abbot, of the Alexander Murray Company of Montreal, importers of celotex and sponsors of the application, claimed vigorous merchandising of celotex had indirectly helped the sale of all other insulating materials and added that the insulating ground had not yet been scratched in Canada.

The Tariff Board took the matter under advisement. This board has no power to alter the tariff, but can only make recommendations to the government.

Estate of Late Warren Curtis, Jr.

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., February 24, 1930.—The estate of the late Warren Curtis, Jr., prominent paper manufacturer, is valued at over $150,000, according to his will probated in Surrogate's Court during the past week. The widow, Mrs. Madeline C. Curtis, of Lewiston Heights, and Judge James McPhillips, of Glens Falls, were appointed executors. The will bequeaths to the widow $20,000 outright and to the other executor, Judge McPhillips, $25,000. Bequests of $5,000 each were made to Albert S. Mahen, Louis A. Parmenter and Maxwell Parmenter, all of whom reside in Corinth.

The remainder of the estate, according to the terms of the will, is to be used in providing an income of $9,000 a year to the widow during her life. Upon her death the remainder is to be divided into equal parts between the Saratoga Springs Hospital and a number of relatives.

Harvey E. Platt Dead

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., February 24, 1930.—Harvey E. Platt, former president of the National Paper Trade Association, and president and treasurer of the J. L. N. Smythe Company, of this city, died at the Graduate Hospital here last Friday where he was confined for several days following an illness from pneumonia. Mr. Platt was 59 years of age at the time of his passing. He was one of the founders of the J. L. N. Smythe Company, having become associated with the late J. L. Nevill Smythe in 1904, following a reorganization of the company under its present title after several years of business as the Butler Smythe Company and previous to that time the old firm of Wilkinson Brothers, Philadelphia branch of the firm bearing that name in New York City. Mr. Platt, who was born in Glen Falls, N. Y., came to Philadelphia with his parents and after studying in the public schools and the University of Pennsylvania from which he matriculated in 1891, became associated with the paper industry in the John Crompton Paper Box Company, withdrawing from membership in that concern to unite with J. L. N. Smythe in the present company, upon the retirement from the Smythe company of Frederick C. Butler, former partner in the Butler Smythe Company, predecessor to the existing company in 1904. He married Margaret Armstrong, of the well known paper making family of Armstrongs, which founded the New York and Pennsylvania Company.

In 1919 he was elected president of the National Paper Trade Association. He was active in the Rotary Club and the University Club and was a member of the Union League. For more than a quarter century he was Elder in the Overbrook Presbyterian Church. He became president and treasurer of the J. L. N. Smythe Company, 30 South 6th street, upon the death of the late J. L. N. Smythe in 1928. Surviving besides his widow, is one son, Harvey E. Platt, Jr. Funeral services were held from his residence 6380 Overbrook Avenue, with a wide circle of friends and associates in the paper industry attending.

Frederick C. Clark Appointed Major

Announcement has been made by the First Corps Area of the Officers Reserve Corps of the Unted States Army that Frederick C. Clark, prominent paper mill engineer and consultant, of South Manchester, Conn., has been awarded a commission as Major of the Ordnance Department, Procurement Service.

Major Clark's intimate knowledge of the military applications of cellulose was largely responsible for the appointment as well as his intimate familiarity with the industry and manufacturing details. It will be recalled that Major Clark contributed much to the success of the World War by his work as the chief of the Paper Section of the United States Bureau of Standards in its cooperative work with the War Industries Board.

Since the war period, he has been in turn technical director of the American Writing Paper Company, Holyoke, Mass.; vice president and general manager of the Pejepscot Paper Company, Brunswick, Me.; secretary and general manager of the Hawthorne Paper Company, Kalamazoo, Mich.; partner in the East Hartford Paper Manufacturing Company, of Burnside, Conn., and more recently a consulting engineer, serving a large number of the leading paper companies in all parts of the country.

E. V. Krom Goes To Miami, Fla.

ITHACA, N. Y., February 24, 1930.—E. V. Krom, superintendent of the Read Paper Company, left Ithaca recently for a vacation at Miami, Fla. Mr. Krom has not been in the best of health for some time. His many friends hope that the much needed rest and change in climate will effect a speedy recovery in his health.

Demand for Paper Limited in Philadelphia

Consumption of Practically All Standard Grades of Paper Generally Restricted to Immediate Requirements—Manufacturers and Distributors Anticipate Livelier Market In Near Future With Broadening Request for Spring Time Needs—Fine Paper Conditions Selective

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., February 24, 1930.—Though the trade is stili in a transition period, there is a brighter side to the paper market as inquiries show that customers are preparing to go ahead with orders for the spring. Present day consumption is restricted to immediate needs. There is a broadening demand for specialties—this field of paper distribution having been given more than usual attention in recent times. Though orders for volume stocking are limited to consumers of fine papers and specialties in the wrapping paper division and are chiefly placed with mill representatives and wholesalers of paper, the distributors are now assured that purchases in this class of business will soon be extended. Both the mills and distributors are not over supplied with goods on hand and as soon as this shopping around for prices is ended a broadening market is looked for. An evidence of this is manifested in the steadiness of values in all grades of papers. Though paper trading is limited in the present market there is no further weakening in quotations either among the manufacturers or among the distributors who are co-operating to prevent price recessions of consequence. Wrapping papers are steady and krafts are firm. Builders papers are more active as spring time needs are anticipated. Boards are quicter and manufacturers are curtailing operations

Fine Paper in Selected Market

Fine papers have drifted into a selected market where seasonal needs have the run. Lithographers supplies, window decorations, fancy papers for papeteries, newest social stationery supplies, bristol boards and broadsides, are among the list of specialties that are more lively. Manufacturers of bleached and unbleached specialties report a growing demand. Distributors are preparing for Easter and its requirements in fancy papers, announcements, etc. Seed and hardware merchants are preparing for the growing season and its needs in mulch papers, which are rapidly becoming standardized products for the agriculturists. Manufacturers are cooperating with the distributors in promoting attention to and sales of mulch. The J. L. N. Smythe Company which is the Philadelphia distributor for the International Paper Company's Gator-Hide Mulch Paper, has been enjoying an active market for this product and is now consigning shipments to the seed, hardware and other merchants catering to the farmers and nurserymen in this territory. There has been a widely distributed demand for mulch in Southern New Jersey and Eastern Pennsylvania. The Smythe company has been giving the Gator-Hide prominence in an educational window display. It shows the use of Gator-Hide Mulch from the planting season to the harvest time and its use as protective covering and preservative of moisture on the farm.

Paper Stock More Active

Dealers in paper stock report a livelier demand for the better grades as mills become more active. Though the demand has been much improved there has been no price changes. Very little accumulations of the better grades of paper stock are to be found in the warehouses of the wholesalers. Such grades as shavings, book papers and krafts are now moving in greater volume as mills become more active. Rags, too, show the improvements taking place in the manufacturing branches of the industry. The cheaper grades are not keeping pace with the demand for the better grades and indicate the dullness now prevailing among the smaller board mills. Large board manufacturers with converting plants for th manufacture of containers are not included in the open market purchases of paper stock as most of the prominent producers have their own paper packers, a growing custom which eliminates them from general market buying.

T. H. B. Smythe, President of J. L. N. Smythe Co.

With the death of Harvey E. Platt, former president of the J. L. N. Smythe Company, 30-34 South 6th street, T. H. Butler Smythe, who was formerly vice president of the company has been elected president and treasurer. The business will be continued as in the past. Harvey E. Platt, Jr., son of the late president, whose passing took place last week, is attached to the staff of the firm. The J. L. N. Smythe Company is one of the oldest wrapping paper and specialty houses in the Quaker City industry and although the present ownership dates back to 1904 the firm's foundation was laid in the early 80's when it was known as Wilkinson Brothers with ownership by the New York Paper Company, an outgrowth of the former A. G. Elliott Company, of Philadelphia, which was absorbed by the New York concern upon adjustment of its financial difficulties. Harvey E. Platt joined the company in 1904 when the title was changed to the present name and the business vastly expanded into one of the largest concerns in its line in this section with a domestic and exporting business extending to Australia and South America. With the demise of J. L. N. Smythe in 1928 his son assumed membership in the firm as its vice president. The firm recently disposed of its holdings in the Windsor Locks Paper Mills at Windsor Locks, Conn., devoted to the manufacture of crepe, tissues and like specialties although Mr. Platt still continued as a stock holder in the Connecticut manufacturing concern.

Rupert Fiber Holdings Sold

The Philadelphia trade was informed last week of the sale of the family holdings of Charles G. Rupert in the Delaware Hard Fibre Company, established in 1890 to the Continental Diamond Fibre Corporation, of Newark, N. J., which operates plants in this state at Norristown, Pa., and in other sections of the country, France and England. While the exact consideration was not announced, the Rupert holdings were recently estimated by the family at a valuation in excess of $1,500,000.

Annual Graphic Arts Frolic

The first announcement of the plans for the annual gathering of the graphic arts trades was sent out during the week by the Typothetae of Philadelphia to the members of the Philadelphia Paper Trade Association and allied organizations in the supply industries. The current program will be given as an Annual Typothetae Dinner instead of the Graphic Arts Frolic as in the past. It will be held at the Benjamin Franklin Hotel. There will be door prizes and many surprises sprung in the entertainment program for the evening set on March 6. Door prizes and those given out throughout the evening will be donated by the various firms represented in the combined industries.

John M. Driver Co. Sold

Under the equity receivership the assets of the John M. Driver Company, 57th street and Lancaster avenue, have been sold to the Milprint Products Corporation of Milwaukee, Wis. The large plant, extending in length an entire city square, with modern equipment for the manufacture of glassine bags and wraps, and cellophane products of allied character, will be used by the new owners for an extension to its huge container manufacturing headquarters in the mid-west, where the Milprint Products Corporation

have been engaged in the production of food product supplies in printed and lithographed containers, glassine and cellophane bags and wrappers, also opaque papers and strong visible papers that permit of inspection of the contents, for the past thirty years.

The firm also produces special cartons of cellophane and paper combinations and is engaged in continuous developments of new ideas and patents in food product packages of the type in which it specializes. It also produces cartons and packages for the industries engaged in cigar manufacture, clothing, and mercantile and other trades. It is equipped to print on cellophane as well as paper and has a staff of forty specialists in designing, who originate its products, and sales representatives in various parts of the country who are centered in the principal cities of the nation.

Addition to Milwaukee Plant

The Milwaukee plant will be augmented by the addition of its eastern branch manufacturing center just acquired from the Driver company, making it one of the largest concerns of its kind in the country. The firm will bring its complete line of products to the Philadelphia branch plant, which is to be extended to meet extension of production in packages for food products and other industries. The Philadelphia branch is under the supervision of William Gainsberg, who has been for five years at the Milwaukee headquarters and who has been made general manager of the Quaker City plant. The officials of the corporation are: President and Treasurer, M. T. Heller; Vice Presidents, Roy E. Hanson and Frank Hermes; and Secretary, William Heller.

Cleveland Container Co. Acquires Local Plant

The Cleveland Container Company, of Cleveland, Ohio, has acquired the plant and business of the Keystone Paper Products Company, Inc., with headquarters in the recently constructed manufacturing building at Water and Jackson streets. The local concern has been merged with the Cleveland company, which produces a similar line of paper tubes and containers. The Keystone company has been devoted to the production of paper tubes and cannisters, and is equipped to continue the manufacture of these in line with the products of the Cleveland company. The Cleveland company also operates a branch plant in Hoboken, N. J. Richard Sellers, who was a former member of the Keystone Paper Products Company, Inc., will be continued with the new ownership as sales manager.

A. S. Datz & Son Opens Window Display Department

Under the new ownership of Louis Schulman Company, of New York, the A. S. Datz & Son Company, 16 South Marshall street, has branched into a new department which will be given over to specializing in the sales of papers devoted to window display purposes and decorative designs linked with the window and interior store and other like advertising purposes. This department is new to the Philadelphia industry and the Datz company is the first house to make decorative and window display papers a specialized division. With the inauguration of the Window Trimming and Decoration Paper Display Department, the Datz company has established a permanent exhibit of the uses to which paper may be put advantageously in the growing advertising feature of industry.

The permanent exhibition includes borders, back grounds, grass mats, paper floral designs, garlands, paper board and card boards of many hues and a wide assortment of novelty and decorative papers for all purposes that will harmonize in window trimmings. Window trims, effectively designed, will be on display in the permanent exhibit. Interior displays and trims are also included in the exhibit. The firm, which is one of the oldest paper box and printing paper supply houses in the Philadelphia industry, is branching out in its sales department and has added to its staff J. W. Regan, who formerly covered the box industry for eight years for Walther & Co., New York, now representing the firm in Eastern Pennsylvania, New York, and the South, while George Rogers, formerly for fourteen years with the Philadelphia firm of Matthias and Freeman, is assigned to the printing trade.

Megargee Represents Paterson Parchment Paper

With the appointment of Gilbert Megargee to the Quaker City representation of the Paterson Parchment Paper Company, of Passaic, N. J., with mills near Bristol, Pa., there is again linked with the Philadelphia industry a member of one of the pioneer paper manufacturing and distributive families. The newly appointed manager of the Philadelphia sales offices of the Paterson Parchment Paper Company, is located in Room 260 of the Drexel Building. He is the son of George Megargee, one of the founders of the Paterson Parchment Paper Company, and of the old Philadelphia firm of Megargee Brothers, which was established here almost a hundred years ago and whose descendents are linked with the various paper concerns in this state and New York. He will occupy the office jointly with H. J. McKeever, manager of the Quaker City sales of the Hammersley Manufacturing Company, manufacturers of waxed papers. The new manager entered his association with the local trade last week.

Sabin Robbins Paper Co. Improvements

Philadelphia headquarters of the Sabon Robbins Company, 1028-30 North Delaware Avenue, have been undergoing extensive improvements in the sales offices and the renovating of the interior. The sales department has been equipped with a new sample room showing printed specimens of papers handled by the firm while the entire interior has been refinished with modern office equipment. Manager H. C. Riley reports that the January sales of the firm were the largest since the acquisition of the Philadelphia branch and the extension of the sales services were necessary to adequately take care of the growing business. In the remodeled offices additional salesmen have been quartered.

Aged Widow of William H. Cline Passes

Still linked with the Philadelphia trade through relationship with M. O. Raiguel, head of the paper stock concern bearing that name, many Philadelphia friends and former business associates of the late William H. Cline, were present at the funeral services for his widow, Mrs. Margaret G. Cline, whose passing took place last week at the age of 89 years. Her death resulted from the infirmities of age. Mrs. Cline was the widow of William H. Cline, who was a member of J. G. Dittman Company, predecessor of the A. G. Elliott Company, who died more than fifteen years ago. She was an aunt of Mr. Raiguel and of M. S. Buckley, a former associate of the Thomas M. Royal Company, now residing in California. Funeral services were conducted at her home, 1915 Spring Garden street, with interment in Monument Cemetery.

Court Orders Unity Paper Mills Continued

[FROM OUR REGULAR CORRESPONDENT]

POTSDAM, N. Y., February 24, 1930.—It was learned this week that the receivers in equity for the Unity Paper Mills, appointed by the Federal Court some time ago, will continue operation of the plant until May, according to an order issued by Judge Bryant. Bernard Wade and Arthur Martin were recently appointed receivers and the operation of the plant will be under their supervision. The latest report submitted to the court shows that the plant has been conducted profitably during the past few weeks. Its continued operation until early spring is assured and it is understood that there is no doubt but what it will remain running after that date. It is said that a reorganization will be effected when the court's order expires.

Canadian Book Paper Consumption Restricted

General Business Concerns Complain of Great Disparity Between Prices of Kraft or Wrapping Paper In the Dominion and the United States — Makers of Magazines, Catalogs and Books Finds Foreign Competition Difficult to Meet—Provincial Paper's Report

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, February 24, 1930.—Charges made editorially in the *Financial Post*, published in Toronto, that the consumption of book paper in Canada is being held in check because of the much higher price of book paper to the Canadian consumer than to the same type of business in the United States, find confirmation, to some extent, in leading Canadian cities among all classes of advertising and general business firms, who complain also of the great disparity between the prices of kraft, or wrapping paper, in the two countries. An investigation in cities like Toronto and Montreal and a comparison between Canadian and United States prices, show that Canadian business men are being forced to pay from $24 to $35 a ton more for their wrapping paper and book and catalog paper than in the United States, in spite of the fact that Canada is naturally situated to provide the raw materials much more cheaply than across the line.

While wrapping paper in the United States is being sold for 3¼ cents a pound, the lowest price in Canada, as given by a prominent Canadian paper manufacturer here, is five cents a pound. While wrapping paper is selling for $65 to $75 a ton in the United States the Canadian consumer, buying from the Canadian mills that are protected by a 25 to 35 per cent tariff wall, is being charged from $100 a ton upwards. Still another $50 to $70 a ton is added by the middleman. Prices obtained from a Toronto wrapping paper firm show that wrapping paper costs business firms 7½ cents a pound on one-ton lots, and 8¾ cents a pound on smaller than one-ton lots.

"It is admitted that the price of wrapping paper is too high in Canada," said a prominent executive of one of the big department stores. "It is included in the 1½ to 2 cents that a customer pays on every dollar's worth of purchases he makes."

To the Canadian Newsprint Institute is laid the blame by some business men in Montreal for the high prices that are making it difficult for business men and the makers of magazines, catalogs and books to compete against similar products from the United States.

Business men back up the suggestion that the paper mills in Canada that have specialized in the manufacture of kraft wrapping paper and the finer book, magazine, catalog and writing papers should take a page out of the experience of the automobile, safety razor and other manufacturers who have found that they stimulate sales and ultimately made larger profits because they reduced prices to a basis that encouraged consumption and mass production.

News Print Problem Settlement Necessary

Ever since the annual convention of the Canadian Pulp and Paper Association there has been a growing confidence that the unsatisfactory situation in the news print industry will be settled shortly. As far as can be learned there has been no agreement or understanding reached by the three principal contenders, namely, the Quebec Government, International Paper and Canadian producers. At present International is operating its Three Rivers and Gatineau mills at capacity. Apparently the company has sufficient orders on its books to keep the plants operating at this level for many months. At the same time it has not indicated in any way that operations are unprofitable, as is evidenced by its refusal to announce a price increase at the beginning of the year. While the president, A. R. Graustein, admitted that the price was too low, International postponed any price increase until midyear and then said it would give purchasers of news print thirty days notice of any change in the contract price.

The other side of the picture is not so favorable. Taking the rest of the Canadian producers as a whole, it is doubtful if they are maintaining operations at 60 per cent of rating; in fact one large producer is said to be operating at considerably below that figure. Were operations on a higher level, the majority of the Canadian news print producers could struggle along on the present price of news print, though there would be little or nothing to show on the common stock. There is nothing to indicate, however, that the mills will be able to materially step-up operations in the near future. One news print executive said: "Operating our plants at 80 per cent of capacity and with news print at $5 a ton higher than at present, would enable us to take care of all our obligations, but there would not be much left over for the common shareholders. The present situation cannot go on indefinitely. It has to be settled." It would appear from this that the Canadian producers are going to have an exceedingly thin time in the first half of this year. The January figures of production are far from encouraging, especially when it is considered that the showing—the worst in twelve months—would have been even poorer if International's mills had not been operating at such a high level.

The producers are now entering a period of declining consumption, so that there is no reason to expect any marked advance in production. Accordingly a limited production and a starvation price for news print are to be expected for the first six months of 1930. It is contended that relief can only come through increasing the price of news print $5 a ton and keeping down installation of new machines until the market demand brings about a lessening of the spread between supply and demand. The latter is admittedly a difficult matter and it seems doubtful if anything can be done along that line. Each province is out to get as much as it can and any measure of co-operation would most likely be a feeble affair. It would appear as if the best hope of improving the situation lies in bringing about a price increase. The producers are in accord over this matter, though there is much discussion as to the manner of bringing it about. It is believed that if International supported the Canadian producers it would be possible to make the increase general.

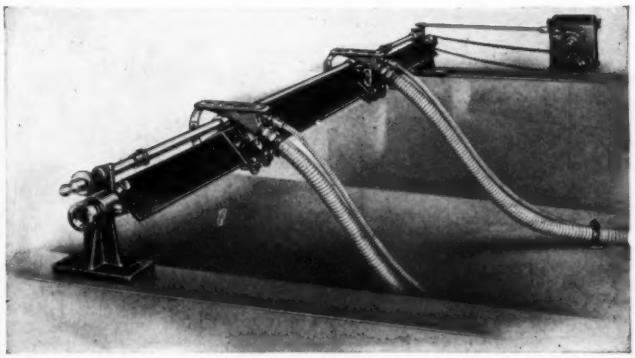
Provincial Paper Presents Statement

At a time when the news print industry generally is in an unsettled condition and individual companies wrestling with the problem of showing sufficient profit to meet all charges, the report of Provincial Paper, Ltd., issued from the head office of the company in Toronto this week, is particularly pleasing. The company is more fortunately placed than most in that operations largely are confined to the manufacture of high grade paper. Manufacturing profit for 1929 at $1,109,249 is only slightly below the 1928 figure of $1,138,331, while sundry revenue has increased from $1,889 to $26,839. A saving has also been made in interest charges by reduction of a portion of bond indebtedness through sinking fund. From profit for the year was deducted $250,000 for depreciation, $10,000 for doubtful accounts and $40,000 for income tax. Depreciation this year compares with $450,000 set aside in 1928. After all charges there remained for bond interest $836,087, which is 3.28 times interest requirements of $251,619. Preferred dividend requirements of $245,000 were covered 2.39 times. The balance of $339,468 was carried to surplus, increasing this amount to $526,243. Profit on common stock, now held by Abitibi, was equal to $3.39 a

WITH VICKERY FELT CONDITIONERS one mill made 60% more paper per felt.....

A large mill used 149 felts one year to produce 169,000,000 pounds of paper. They installed Vickery Felt Conditioners on their ten machines. The following year they used 96 felts to produce 172,000,000 pounds of paper — an increase in production per felt of 60%. And the paper was better paper, more uniform in quality.

See what the Vickery Felt Conditioner will do in your mill. Put one in on trial, at our expense.



BIRD MACHINERY

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3699

share. The ration of current assets to current liabilities is over 5 to 1 and net working capital amounts to $2,132,422. Current position has been improved over last year when working capital equalled $2,042,087.

In the report of the directors, signed by S. F. Duncan, the president, the shareholders are informed that "In view of the fact that 1929 was a rather unsettled year in the paper business generally, and that your company was unable to operate quite full time throughout the year, it is gratifying to report that our sales and profits were practically the same as for 1928 as will be seen from the income account. Moreover, I am pleased to report that the unfilled orders on hand the first of this month were slightly in excess of those of the same period a year ago." As indicative of the strong financial position and conservative position of the company, the sinking fund requirements on its bond issue, which commenced in 1929, and amounting to $125,000 annually, have been met by the surrender and cancellation of $300,000 of the company's bonds. In addition the company has purchased and holds in its investment account $425,000 of its own bonds thus anticipating its sinking fund requirements until 1934.

F. N. Burt Co. Maintains Profits

Earnings of the F. N. Burt Company, Ltd., for the fiscal year ended December 31, were well maintained and almost equal to the record set up in the preceding year. After all charges there was earned $4.65 a share on the common stock compared with $4.72 in 1928 and $4.60 in 1927. President S. J. Moore, of Toronto, tells shareholders that selling prices averaged lower but the effect of this tendency was offset by greater volume and lower manufacturing costs. The company continues to develop new types of paper boxes, thereby extending its sources of business and offering to its customers new and unusual packages in which merchandise may be packed and displayed. Profit for the twelve months is reported at $785,288 contrasted with $789,843 in 1928 and $757,021 in 1927. Following deductions for depreciation, taxes and amortization of patents there was available for preferred dividends $503,535 against payment of $5,393. The net available for distribution on the common stock amounted to $489,142. During the year there was a slight decrease in the preferred shares outstanding and a corresponding increase in the common. The liquid position has been improved with the ratio of quick assets to liabilities almost 4 to 1. Net working capital is up over $300,000 while current liabilities show a reduction of over $100,000.

Pulpwood Export Duty Proposed

A proposal for placing an embargo or exportation duty on pulpwood will be discussed in the Commons at Ottawa this present session. The debate will be initiated by George Parent, Liberal, Quebec West, who has prepared a proposed resolution asking the Commons to go on record that "the time has come for Canada to impose an embargo or exportation duty on pulpwood, coupled with such legislation, if necessary, as would assure settlers a fair remuneration for the wood taken from their lands." Sharp conflict of views between Canadian pulp and paper interests and a concern interested in the manufacture of fiber board from sugar cane developed before the Tariff Board this week. The Alexander Murray Company, of Montreal, asked for free entry of sugar cane fiber. The company proposed to erect a $1,000,000 plant in the Province of Quebec. A representative of the Canadian Pulp and Paper Association expressed the fear the new plant would compete seriously with fiber products made from waste matter at saw mills and paper plants.

Notes and Jottings of the Trade

George Davidson, salesmanager of the Howard Smith Paper Mills has gone on a business trip to the Pacific Coast.

Timber belonging to the Ontario Government in the Porcupine District has been sold to H. H. Rudolph, of Weston, Ont. The quantity sold consisted of slightly less than 1,000 000 feet of large timber and 9,000 cords of pulpwood. The price of $9.25 per 1,000 feet was obtained for jack pine, $11.05 for spruce and $2.40 a cord for spruce pulpwood. The jack pine and spruce will be used by the successful tenderer for mining purposes and news print. The market for the pulpwood is in Smooth Rock Falls, Ont.

E. G. Rolph, sales promotion manager of the Howard Smith Paper Mills, delivered an illustrated lecture before the Riverdale Kiwanis Club in Toronto a few days ago demonstrating the various processes of paper manufacture.

Frank A. Murphy, New York representative of the Kimberly Clark Company, Neenah, Wis., was a business visitor in Toronto a few days ago.

A survey of 1929-1930 pulpwood operations in Ontario discloses that paper companies are operating approximately 109 camps in which they are employing about 8,000 men. There are also approximately forty pulpwood contractors cutting on leased or personally owned limits. They operate about one hundred camps, employing in the neighborhood of 3500 men.

Word from Vancouver announces that Pacific Paper Mills, Ltd., will erect a plant in Vancouver to manufacture paper specialties as a unit of their Ocean Falls paper mills. The factory will be erected between the wharves of the sugar refinery and the Kingsley Navigation Company, Ltd. The property has been leased for 21 years from the harbor board. Construction will be completed in May. The plant will cost around $150,000 and machinery will be installed to manufacture waxed wrappers, fruit papers, towels, napkins and other specialties. One hundred men will be employed.

Paper Can, Tube and Drum Conference

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 24, 1930.—The paper can, tube and drum industry has been granted permission to participate in a trade practice conference previously authorized by the Federal Trade Commission for the set-up paper box industry and now scheduled to be held Thursday, February 27 in Cleveland at the Statler Hotel. Commissioner Edgar A. McCulloch will preside.

The combined applicants for the conference represent close to 400 plants and a total yearly business of $106,000,000. The two industries will seek to establish rules of business practice for the elimination of unfair methods of competition. Their problems in this regard are similar.

These industries are units in the generic field of paper and board or paper or board containers. The set-up paper box group manufactures a type of box set up and ready for use, differing from folding boxes, which may be flattened for shipping. A typical set-up box is the candy box.

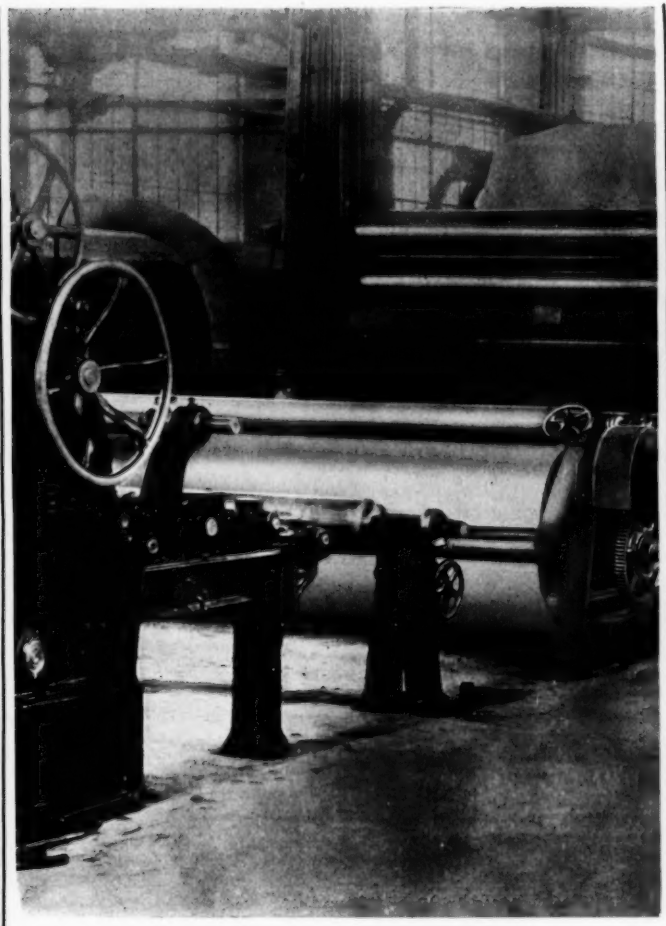
The paper can, tube and drum industry produces containers by processes of either winding paper or board, or by stamping the board, or by both methods in combination. A large volume of such products is also made by members of the set-up paper box industry.

Among subjects to be discussed at the conference are the following: False invoicing, secret rebates, price discrimination, inducing breach of contract, sales below cost, commercial bribery, defamation of competitors, enticement of competitors' employees, terms of sale, warehousing, system of accounting and cost finding, uniform order form, description of goods, dumping, misrepresentation, over-runs, contracts without mutuality, arbitration, and registration of original products.

Warren Parchment Co. Settlement

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., February 24, 1930.—Settlement with creditors compromised by John J. Warren, president of the Warren Parchment Company, will be approved by Judge Frank Cooper, of Albany, on February 24, provided there is no substantial protest, it was announced this week. As counsel for the large majority of the creditors have given assurance that the settlement is satisfactory and it is unlikely that it will fail to be ordered.



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Western Safety Division Meets at Powell River

[FROM OUR REGULAR CORRESPONDENT]

POWELL RIVER, B. C., February 21, 1930.—Under the Chairmanship of R. H. Scanlon of Powell River, B. C., recently appointed Pacific Coast Regional Director, delegates from Oregon, Washington and British Columbia mills convened in Powell River, for the first meeting of the Western Division of the Pulp and Paper Section of the National Safety Council, on Wednesday, February 12.

The conference was attended by over twenty delegates, in addition to the various safety committees of the Powell River plant. The convention was the first of its kind to be held on the Pacific Coast, and the delegates were unanimous in their enthusiasm over its outcome. The Powell River Company, who were hosts to the visitors, had prepared an extensive program of entertainment which kept the delegates occupied throughout the day.

After a tour on inspection through the Powell River plant, the visitors were entertained at a special luncheon in the Hotel Rodmay. In the afternoon they were driven in cars about the townsite and the surrounding district.

At 4:30 the delegates gathered in Dwight Hall for the first general conference of the day. This was an open meeting and a large attendance was present to hear the speakers at the afternoon session.

Purpose of the Conference

R. H. Scanlon as regional director, in opening the meeting explained that this conference was the first step in the organization of a definite Western Division of the National Safety Council. At an extraordinary session of the National Safety delegates, held earlier in the afternoon, tentative arrangements had already been concluded. Conferences would be held at least twice a year in different coast mills, and an organization committee consisting of Oscar A. Jorgenson, British Columbia Pulp and Paper Company; Phelps Dodge, Oregon Pulp and Paper Company and Paul Rozell, Inland Empire Paper Company, Spokane, Wash., had been appointed. The chairman appealed to all non-member mills to fall in line and "enlist in The National Safety Council Accident Prevention Army." He felt that the co-ordination of effort and the efficient, continent wide organization of this body brought a concentration to bear on the industrial accident prevention problem, which was impossible in the individual and often disunited efforts of single plants.

Major Steere Clark Speaks

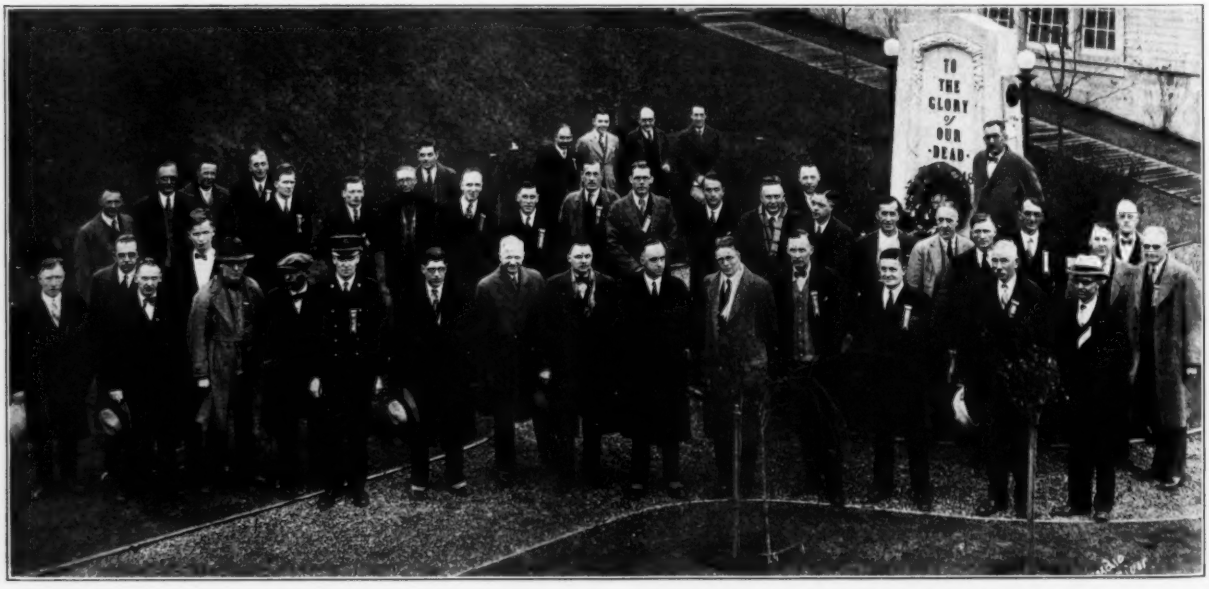
The principal speaker at this session was Major Steere Clark, safety director of the B. C. Loggers' Association. Declaring the conference as "a red letter day in British Columbia industrial history," he outlined the development of safety into a study of international importance, instancing the splendid efforts being made in the dissemination of safety doctrine by the international organization now established at Geneva. Defining safety education as a "Science of common sense," Major Clark stressed the work being done to make the logging industry of B. C. safety conscious. He, as director of the B. C. Loggers' Association accorded his full support to Mr. Scanlon in his efforts to organize a working division of the National Safety Council on the Pacific Coast, and congratulated the Powell River Company on their whole hearted support of the convention.

"Pyramiding of Safety Work," was the subject of the address given by Percy Abell, Manager of the British Columbia Safety League. The speaker declared that had the same efficiency of organization prevailed in the campaign against public accidents that was concentrated in industrial safety, deaths due to motor traffic, etc., would be a negligible feature of our lives today. Unfortunately this was not the case, and the public had not yet awakened to the terrible toll taken in public accidents. He startled many of his hearers with the statement that tuberculosis and cancer were yearly responsible for far less death and misery than those arising out of motor traffic, and similar form of public accidents.

W. D. Jenkins, Safety Director of the B. C. Lumber and Shingle Manufacturers Association, and one of the earliest safety engineers in British Columbia, gave the delegates a comprehensive and richly colored survey of safety activity in the logging industry of the western province. He emphasized the difficulty of inculcating safety consciousness in an industry which was largely nomadic and which embraced men of diverse and widely extended nationalities.

Safe Thinking and Safe Workmanship

Frank Nello, Powell River Company safety engineer, concluded the afternoon's session with a detailed summary of the



DELEGATES AND LOCAL SAFETY COMMITTEE PHOTOGRAPHED AT POWELL RIVER WAR MEMORIAL SITE

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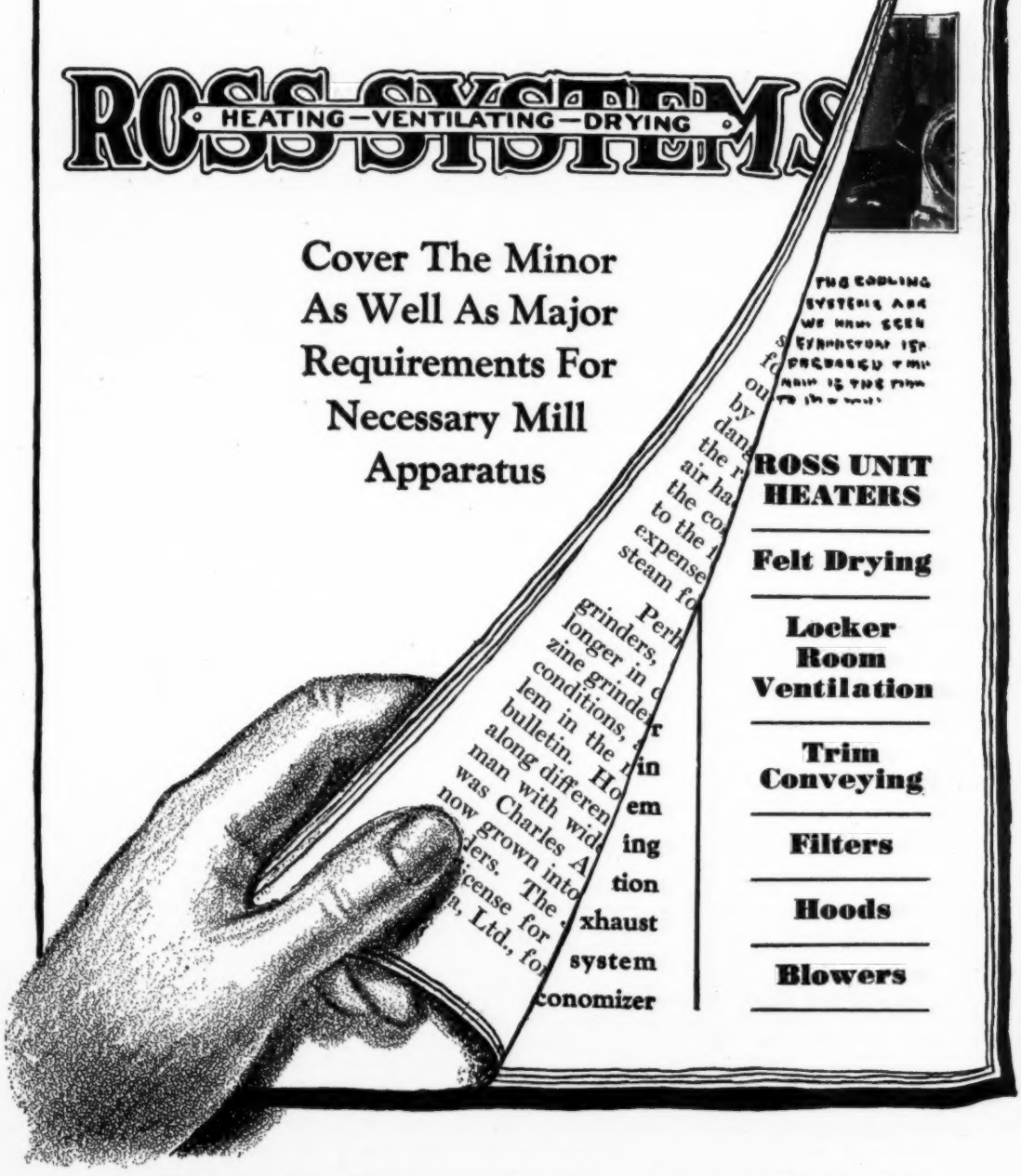

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work being done in his company to promote safe thinking and safe workmanship among the personnel. "The Powell River Company," he said, "have spared no expense in their efforts to have every possible piece of machinery adequately guarded and regularly inspected, and frequent talks on problems of safety were held by foremen for the men in different departments. The plant is fully organized for safety, and the education of the employees in safe workmanship is an integral part of the managerial program."

R. Bell-Irving Speaks at Banquet

At the evening banquet tendered to the visiting delegates and attended by Powell River safety committees and foremen, R. Bell-Irving, the company resident manager, was the chief speaker. In proposing the toast to the National Safety Council, R. Bell-Irving frankly stated that in safety matters, Pacific Coast mills lagged behind Eastern plants.

"I believe I am not unfair when I say that as far as efficiency in production, and efficiency in equipment is concerned, we in the West, are on a par with the East. From the standpoint of quality, we meet the East on level ground. In living and working conditions, our Pacific Coast mills are inferior to none. Our general standard of living and the type of employees on our payrolls are also at least the equal of Eastern organizations. We have in British Columbia, a Workman's Compensation Act and a Government Inspection Service that is second to none on this continent; and our mills are equipped for the most part with strictly modern safety equipment.

"In spite of this," Mr. Bell-Irving continued, "in the matter of accident prevention, we have not as yet equalled the record of the average eastern mill.

"Why is this? It may be due to the more compact nature of the mills there; their close proximity which enables frequent round table conferences. It may be due in part to certain differences in methods of eastern and western manufacturing.

"I am inclined to think, however, that no little credit for the superior showing of the East in the question of safety may be traced to the greater activity of the National Safety Council in that part of the country. Whether this is the correct answer to our problem, I do not know. But the fact remains, that in the regions where the National Safety Council is more active, a lower accident rate prevails. This in itself is very insignificant and would certainly appear to strongly indicate the desirability of stimulating Council activities in the West. For this reason I wish to say to the delegates here tonight, that the Powell River Company are solidly behind the movement to organize the Pacific Coast Section of the National Safety Council, which has honored our Mr. Scanlon by appointing him Regional Director for the Pacific Coast."

"In conclusion and subject to the decision of your committee and to any more deserving claim which may be advanced, I take this opportunity of inviting the Pacific Coast Division of the Pulp and Paper Section of the National Safety Council, to again convene in Powell River next year. If our invitation is accepted, we assure you, in advance, of a very hearty welcome."

Major Steere Clark, in replying to the toast, energetically substantiated Mr. Bell-Irving's conclusions. Drawing a number of colorful instances from his long experience in the logging industry, Major Clark felt that organization of the Pacific Coast mills as a working division of the National Safety Council, would greatly benefit industry on the Pacific Coast.

"There is one thing that has struck me forcibly when spending this wonderful time in Powell River and that is the loyalty of the men to the management. If you have this nucleus you can do anything.

"I think the National Safety Council did an extraordinary wise thing in appointing Mr. Scanlon as Regional for the Northwest, and there is no better jumping off place for this movement than this particular place right here. If you will support the efforts of Mr. Scanlon, you will find a difference. This is not a one-man job—it is a job for every man, from the highest to the lowest."

"The question is, how can we reach the rank and file? That is done through men chiefly like ourselves. I maintain that the superintendents and foremen are the backbone of the organization, and if they can exercise the proper amount of leadership, they can generally lead these men into habits of caution. When a man once secures a sense of caution, he becomes a safety booster. You may convert a man who is antagonistic if you approach him from the right angle. Safety cannot be driven. You can lead him in common sense talks, in discussions at the table as well as at work.

"Accidents can be stopped if properly taken hold of."

Joseph Falconer Proposes Toast

The toast to the visiting delegates was proposed by Joseph Falconer, Powell River Company, assistant resident manager, Mr. Falconer spoke enthusiastically of the interest shown in the meeting and of the undoubted stimulus such a gathering would give the industry on the coast.

Percy Abell replied on behalf of the visiting delegates.

R. H. Scanlon, in his concluding remarks, thanked the delegates for the co-operation they had accorded him, and assured his audience, that, as regional director, he would leave no stone unturned to organize a definite campaign for safety among the Pulp and Paper mills of the coast. He hoped, later, he said, to see the organization embrace all industries.

Five Main Causes of Accidents

The chairman said that in his mill they had found the greater percentage of accidents as resulting from five main causes. They were:

(1) Infection from cuts, comprising 12 per cent of accidents.
(2) Slipping which was responsible for nearly 15 per cent.
(3) Pickaroons causing nearly 10 per cent of all casualties in the plant.
(4) 10 per cent from fingers being caught between rolls and drums.
(5) Miscellaneous.

The "danger hours" he had discovered, lay between the hours of 10-12 in the morning and between 3-5 in the afternoon.

Concluding the chairman said, "We should not only watch the danger hours, but we should watch the causes. I recommend that our firm study these things carefully and recommend that the visiting delegates make a similar study in their own plants!

At the conclusion of the banquet the visitors were given three hearty cheers and the usual tiger, and one of the most successful safety conferences ever held on the coast broke up to the tune of "For they are jolly good fellows."

Features of the Banquet

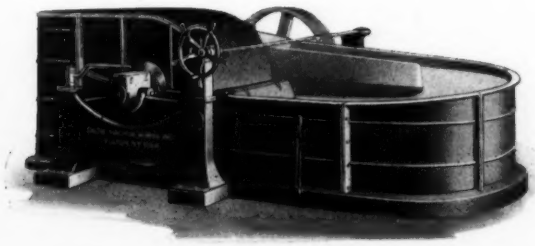
At the banquet given the visitors in the evening, John McIntyre, Powell River Company townsite manager, had prepared an enlarged and illuminated replica of the National Safety Council emblem, for conspicuous display. In addition, special souvenir programs, with a safety menu were placed at each visitor's plate. Considerable merriment was injected into the proceeding, when Mr. Scanlon read a number of "bogus" telegrams addressed to members of the visiting delegation. Many of these were signed "Wifie" and some perturbation was evinced over the behavior of absent husbands in a strange land in which the 18th Amendment had not yet penetrated. To make introductions easier, each of the visiting delegates were supplied with identification ribbons on which their names were printed. This greatly assisted the "mixing process." The visitors were introduced by the chairman, and each expressed a conviction that this safety convention was a forward step in western pulp and paper history.

Those Who Attended

The following delegates were in attendance:

H. Steere Clark, Safety Director, B. C. Loggers Association.
Percy C. Abell, B. C. Safety League.
W. D. Jenkins, B. C. Lumber and Shingle Manufacturers.

(*Continued on page 56*)



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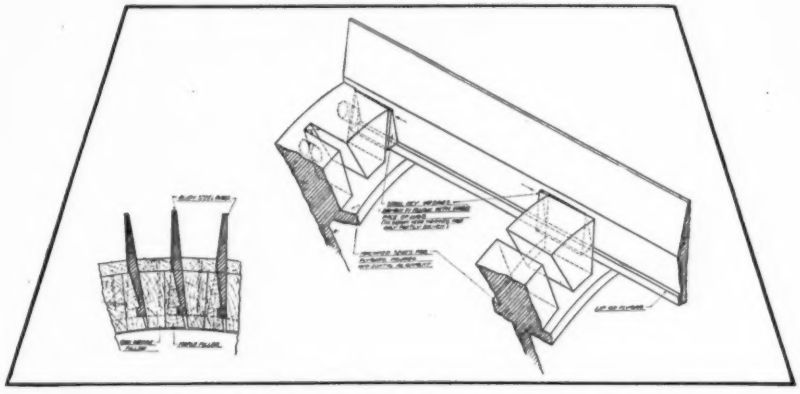

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Houston, Tex.—The O. B. Andrews Company, Chattanooga, Tenn., manufacturer of paper boxes and containers, is arranging an expansion and improvement program at branch plant at Houston, to include installation of additional equipment for increased capacity. The work is reported to cost about $80,000, and will be placed under way at an early date.

Connellsville, Pa.—The Fort Wayne Corrugated Paper Company, Fort Wayne, Ind., is planning the establishment of a new plant at Connellsville for the manufacture of paper cartons and other containers. Negotiations have been concluded with the Capstan Glass Company, Connellsville, to build a plant on site 150x350 feet, to be occupied by the Fort Wayne company under lease, and work on unit will be placed in progress at once. The initial works are estimated to cost close to $200,000, with machinery.

Monroe, Mich.—The Consolidated Paper Company, East Elm avenue, is said to have preliminary plans under way for the rebuilding of portion of storage and distributing plant, recently destroyed by fire with loss of close to $150,000, including equipment. Wernert & Taylor, Nicholas Building, Toledo, Ohio, are architects.

Chicago, Ill.—The Rainbow Paper Favor Works, Inc., Chicago, has leased a floor in the building at 2743 North Sheffield street, and will establish a local factory for the manufacture of paper novelties and specialties.

Baltimore, Md.—The Guilford Folding Box Company, Eager street and Fallsway, manufacturer of paper boxes and containers, has leased a factory building at Haven street and Ashland avenue, totaling about 30,000 square feet of floor space, and will improve for a new plant. Early occupancy is planned; it is proposed to provide for considerable increase in present capacity. Plans projected by the company a few months ago for the erection of a new plant at Philadelphia Road and 13th street have been abandoned, as expansion program will now be carried out at acquired property.

Appleton, Wis.—The Kimberly-Clark Corporation, Neenah, Wis., will convert its Atlas mill at Appleton into a wall paper printing plant. The local paper converting department, which was closed down about sixty days ago, will be discontinued permanently, and given over in the future to the new division. A battery of six wall paper printing machines will be installed at an early date, with complete accessory equipment, and large capacity will be developed. It is expected to have the new department ready for service late in April.

Wilmington, Del.—The Continental Diamond Fibre Corporation, Newark, Del., has concluded negotiations for the purchase of the plant and business of the Delaware Hard Fibre Company, Ltd., with mill at Marshalltown, Wilmington, and will consolidate with its organization. The acquired property was founded about 30 years ago, and is reported to have been secured for a consideration of close to $1,500,000. It is understood that the purchasing company will continue the plant in operation at the present location. The Continental Diamond company is a consolidation of the Continental Fibre Company, Newark, and the Diamond State Fibre Company, Bridgeport, Pa., and is now operating a number of mills in different parts of the country.

Carnegie, Pa.—The Superior Paper Products Company, Carnegie, has taken bids on general contract for a new local mill unit, and is expected to make award at an early date. The plant will be one-story, brick and steel type, and is reported to cost about $150,000, with equipment. Braziel & Anderson, 309 Fourth avenue, Pittsburgh, Pa., are architects. C. J. Bausmann, Carnegie, is president.

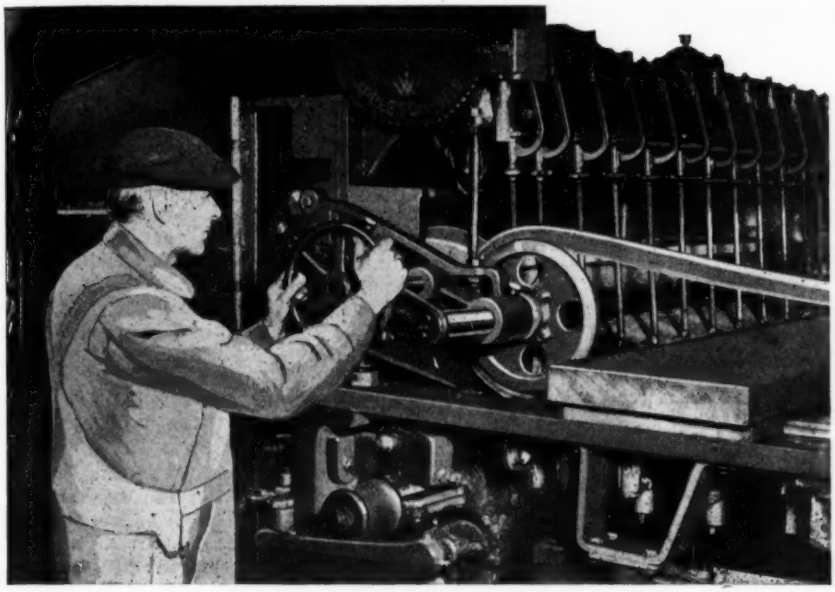
Chattanooga, Tenn.—The Tennessee Paper Mills, Inc., is said to be planning an expansion and improvement program at plant in the North Chattanooga district, estimated to cost about $50,000. It is proposed to increase the present capacity.

Bound Brook, N. J.—The Bakelite Corporation, 247 Park avenue, New York, has taken bids on general contract for a new plant on large tract of land acquired a few months ago at Bound Brook, and proposes to begin work on the project early in the spring. The main units will be of one and multi-story types, reported to cost over $200,000, with machinery. Francisco & Jacobus, 511 Fifth avenue, New York, are architects and engineers. The company will also build a new addition to its plant on Grove street, Bloomfield, N. J., consisting of a three-story structure, 134x154 feet, reported to cost over $125,000, with equipment; bids have been taken on general contract for the last noted unit, and it is proposed to begin work soon. Robert Bolton, 45 Branford place, Newark, N. J., is architect for the building.

Los Angeles, Cal.—The Bates Valve Bag Corporation, 230 North Michigan avenue, Chicago, Ill., a division of the St. Regis Paper Company, Watertown, N. Y., has completed its new Pacific Coast mill at 4000 Medford street, Los Angeles, in the Lincoln Park section, and will develop the unit to maximum output. The plant has a rated capacity of about 300,000 paper bags of multi-walled type per day, with storage facilities for 5,000,000 bags at one time. It will give employment to about 150 operatives. The unit is of one-story type, 160x360 feet, and will be used for entire Pacific Coast distribution. D. A. Fleischman is local manager.

Passaic, N. J.—The Herman Tobin Paper Company has been formed under state laws with a capital of $100,000, to take over and expand the paper business heretofore conducted under the name of Herman Tobin, 284 Monroe street. The new company has been chartered to manufacture paper specialties of various kinds, in addition to dealing in paper stocks. Herman Tobin is the principal incorporator and will head the organization.

Chillicothe, Ohio—George H. Mead, president, Mead Pulp and Paper Company, Chillicothe, and associates are arranging for the early organization of a new company under the name of the Mead Corporation, with assets of about $30,000,000, to take over and operate the local plant and business, together with the Mead Paper Board Corporation and the Management, Engineering & Development Company, Dayton, Ohio, all of which will be consolidated and operated under a central management. It is proposed to carry out an expansion program in connection with the merger. Mr. Mead will head the new organization.



This shows one of the exclusive features of the Voith Inlet which permits deckling in while the machine is running.

SALES PROBLEMS *are sometimes* PRODUCTION PROBLEMS

Many a manufacturer has racked his brain over a Sales problem which, in reality, was fundamentally one of Production . . . .

Of producing *quality* that would meet competition more successfully, and producing at *lower cost* so that a larger margin of gross profit would be available for more aggressive sales effort.

Paper manufacturers are often faced with this problem. And the discard of certain inefficient, profit-eating equipment is generally the solution.

A switch to the Voith High Pressure Stock Inlet has brought about remarkable results in improved quality and reduced costs in scores and scores of mills. Among 130 mills today, 283 installations are demonstrating the superiority of the Voith Inlet in better formation . . . . increased capacity . . . . and more uniform caliper.

There is much more to be said. All of which is told in a booklet the Valley Iron Works Co., Appleton, Wisconsin, has prepared on the Voith Inlet. Write for it.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Manufacturing & Sales Division: Smith & Valley Iron Works Co., Portland, Oregon
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada.

New York Trade Jottings

Gunnar T. Hansson, representative of Elof Hansson, of Gothenberg, Sweden, arrived in New York recently and will spend several months in this country, combining business with pleasure.

* * *

G. F. Blomberg, M.I.C., Ph.C., of the Australian Pulp and Paper Mills, Botany, New South Wales, arrived in New York recently and will sail for Sweden and Germany in a few days.

* * *

Herbert Thwaite, general manager of the Tissue Paper Manufacturers Association, announces that the offices of the association are now located at 280 Madison avenue, New York. Telephone Caledonia 1308.

* * *

The regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry was held at the Fraternities Club last Monday when organization matters were discussed by those present.

* * *

The Sharp Paper and Specialty Company, Inc., are now installed in their new quarters in Room 862, Fifth Avenue Building, 200 Fifth avenue, New York. Their telephone number is Gramercy 4462. Bernard Sharp, president, reports that the corporation experienced a very successful year and that its export business increased considerably.

* * *

Hammond Johnson Atkinson, of the Restigouche Company, Ltd., Campbellton, N. B., Canada, has been accepted by the Joint Committee on Approved Pulp Testing Chemists for the Paper Industry of the United States, with headquarters at 18 East 41st street, New York, as Approved Pulp Testing Chemist, and is listed as such, effective February 21, 1930.

Boston Paper Market More Active

BOSTON, Mass., February 24, 1930.—The paper market has improved here, and it is estimated that a larger volume of material is moving than a year ago at this time. Since the slump in December the market has come back very strong. Members of the trade say this rebound was necessary in order to put it on an even keel again. Competition is said to be exceedingly keen in both fine and coarse papers. The coarse paper market has been rather quiet since the first of the year, except that the last week has shown more activity. Indications are that the price of No. 2 kraft will advance in the not far distant future. Specialties are quiet.

Box board business in general is fair, both in material for the set-up box manufacturers and the folding box makers. Prices are holding firm.

Paper stock is fairly quiet, with prices unchanged in most cases. Mixed papers are dull. New domestic rags are not moving to any extent. In old domestic rags packers of white stock are making some sales. Twos and blues have been moving the last week. Foreign roofing rags continue rather quiet. Some of the mills are buying stock put up in special grades.

Sutherland Paper Co. Elects Officers

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., February 12, 1930.—The Sutherland Paper Company held its annual meeting Monday afternoon at the Chamber of Commerce rooms. Reports were satisfactory, with a large amount of business booked for 1930. The annual election was perfunctory, the only change in the directorate being the election of Charles H. Farrell to fill the vacancy caused by the death of the late James H. Dewing. The other directors are L. W. Sutherland, O. F. Miller, B. C. Dickinson, W. L. Otis, F. A. Appeldoorn, F. B. Eilers, E. W. Chase, F. M. Hodge, L. M. Crockett, W. J. Lawrence, all of Kalamazoo, and Jerome Keane, Detroit.

Alaska As Source of News Print

Information in regard to the woodpulp supply, power sites, transportation and other matters entering into the possible projection of the news print industry into Alaska, is being sought from the Secretaries of Commerce and Interior by Senator McKellar (Dem.) of Tennessee. He has introduced a resolution in the Senate calling for the presentation of that data.

"It is essential from the standpoint of public interest that American newspapers continue to be supplied with an uninterrupted flow of news print," he told the Senate. "I have been informed that this flow is menaced by reports of a combination of Canadian news print manufacturers and especially I am told of their attempt at price fixing on news print paper.

"Of course," he continued, "this cannot be done legally under the anti-trust laws of the United States, but the trouble is getting jurisdiction in our courts. Reports indicate that the population of Alaska is actually less now than in years past and that this territory is important, economically and otherwise, as United States territory. The Government has already built a railroad in Alaska and that together with its water routes makes its products available with reasonable transportation charges to all parts of the United States through the use of the Panama Canal and Atlantic and Gulf ports. The operation of Government and privately owned barge lines, of course, makes available cheap water transportation to the interior cities. It is believed that wood peculiarly adapted to the manufacture of news print paper can be found in Alaska. If it can be found we should have the advantage of it. Hence this resolution is offered so that we may get the exact facts from the department."

Thomas A. Jones Dead

Funeral services were conducted Wednesday, February 19, for Thomas Albert Jones, 74 years old, president of the Harding-Jones Paper Company of Excello, at the home of his son, Thomas, 116 South Main street, Middletown, Ohio. A number of paper manufacturers from Middletown, Hamilton, Franklin and Dayton were in attendance.

Mr. Jones' death occured Sunday afternoon following a brief illness. Several days before the end came, he was stricken with apoplexy. The attack occurred on Thursday and within a couple of days it was believed he was recovering. However, his condition took a sudden turn for the worse.

With the exception of the widow, who also suffered a stroke at Christmas time and has not been notified of her husband's death, and a son, Howard, of Los Angeles, Mr. Jones was surrounded by members of his family when the end came. The son arrived in time for the funeral.

Mr. Jones was born in Amanda, the son of Mr. and Mrs. Reuben Jones. In his youth he worked for the Sorg Tobacco Company, Middletown, remaining with this firm until 1884, when he joined the Harding Paper Company. The same year he was married to Sara Adelaide Harding.

In 1900, the Harding Paper Company was purchased by the American Writing Paper Company at which time Mr. Jones became general manager of the Harding mill division.

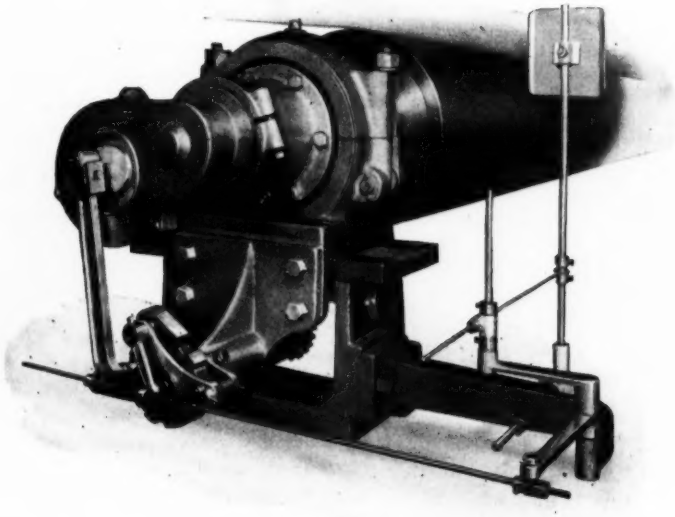
In 1926 Mr. Jones purchased the Excello paper mill, renaming it the Harding-Jones Paper Company, of which he became president.

Mr. Jones, who obtained his education in the one-room school house at Amanda, Butler county, always was interested in education and as a member of the Lemon Township School Board for many years, gave his best endeavors toward the improvement of educational service.

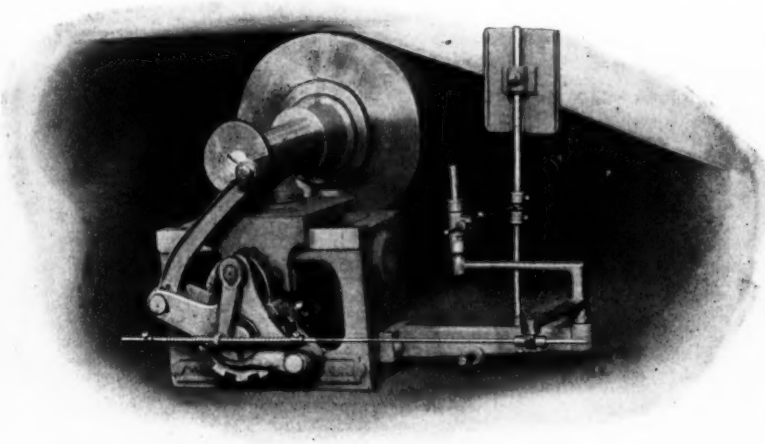
Mr. Jones was the father of the famous Jones brothers—T. A. D., football coach of Yale University, New Haven, Conn., and Howard, grid coach of the University of Southern California, both of whom have been popular in sports circles for many years. Both were All-American football players when in college.

Other children surviving are Clarence M. Jones, Piqua, Ohio; and Mrs. A. G. Sawyer, Lima, Ohio.

M. & W. Single Fender Patented Automatic Wire Guides



BALL BEARING TYPE



PLAIN BEARING TYPE

Note from the illustrations that the pawl when engaged in teeth of ratchet wheel, has a full bearing surface, eliminating wear, also the purchase of many expensive ratchet wheels and pawls.

When the wire is running in the center of machine the pawl cannot transmit any motion to the guide roll. Should the wire travel to the other side of the machine, the positive and quick action of the pawl would immediately cause the Wire Guide to properly align the wire.

The Single Fender feature on these Guides increases the life of the wires considerably, as only a very slight contact between the fender and wire is sufficient to operate the Wire Guide when necessary.

The single fender Guides are more convenient, especially when putting on new wires.

Bulletins on request

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PAPER TRADE JOURNAL
ESTABLISHED 1872

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Vol. XC New York, February 27, 1930 No. 9

KNOWLEDGE + RESEARCH = A SUCCESSFUL MILL

Knowledge, in any particular field of science or industry, is the accumulated experience of all who have contributed to that field through the printed page, plus, of course, the personal or first-hand information of the individual, obtained from laboratory or mill experience. No research problem should be started in a laboratory until the previous state of the art has been studied through the printed page and the experiences and results of others have been ascertained.

While it is possibly not true that "There is nothing new under the sun," yet it is true that somewhere in the journals devoted to the paper industry, there will be found some results which will throw some light on almost any problem under consideration. It is a well-recognized fact that "The research chemist can reduce his work in the laboratory by increasing his work in the library—and in the latter case he is at no expense for re-agents." Reid, in his "Introduction to Organic Research," states the well-known fact that "In the industries thousands of dollars are frequently spent on experiments to find out facts which have long ago been discovered, stored and catalogued in the library, and which might have been learned by an intelligent search."

Research workers in the field of the paper industry need, therefore, an index to the literature of their industry. While some of the paper journals publish indexes to the individual volumes, there is no such thing as collective indexes over a period of years and any search of the literature involves a search of a large number of indexes, covering a period of six months or a year. This is a laborious and time-consuming task.

Dr. Clarence J. West, Chairman of the Committee on Abstracts and Bibliography, recognized this need of the paper industry soon after he joined the Technical Association of the Pulp and Paper Industry, and for approximately eight years spent most of his spare time in assembling and classifying the literature of paper making. To do this it was necessary to examine practically every page of all the important paper making periodicals, literally thousands of them. The result of this survey has been incorporated in his "Bibliography of Pulp Paper Making, 1900-1928," a book of 982 pages, containing close to 20,000 references to articles, classified under 154 headings, with an index to the headings to facilitate reference to them.

It is believed that this work is an invaluable reference book to any one connected with the paper industry, since there will be found, in one place, all the articles relating to a particular phase of the industry. Not only is this true for the research worker but also for those who are engaged in the statistical and trade sides of the industry, for all the important articles on these subjects will be found properly classified. The Cost Department, likewise, will find many valuable references on the application of cost accounting to the paper industry.

Through the cooperation of the National Research Council, which very generously permitted Dr. West to spend part of his time in preparing this material for the printer, and through the broadminded policy of the Lockwood Trade Journal Company, this invaluable reference work is offered to the paper industry for the very low price of $10. Any one who has ever tried to make a literature search realizes that even a start cannot be made for this sum of money. Yet this Bibliography offers at least 154 searches. The moral is obvious.

The above bibliography can be obtained from the Lockwood Trade Journal Company, 10 East 39th street, New York City, for $10.

BUSINESS IMPROVING

It is now fairly clear that business activity in January increased by more than the usual amount over the December level, and it appears that further gains have been made this month, according to a survey of the business situation just completed by the Guaranty Trust Company of New York. In some directions, the bright promise of January has not been entirely borne out; but in others the progress made has even exceeded expectations.

"Undoubtedly the most impressive improvement," according to the survey, "has been reported by the steel industry. This is both significant and encouraging because of the wide variety of sources from which the demand for steel arises and the fact that the trend of steel output usually follows the course of general industrial activity rather closely. Weekly trade reviews have consistently reported increases in business, with special emphasis on improvement in industrial centers. Automobile production increased very sharply last month, while smaller gains were reported in cotton consumption and electric power production, according to the preliminary estimate. Construction contracts were larger than in December, contrary to the usual trend at the beginning of the year. Business sentiment has undoubtedly been improved by the continued ease in money rates and by the general downward movement of rediscount rates at the Federal Reserve banks.

"On the other hand, both check payments and railway freight loadings continue to compare unfavorably with the totals for comparable periods in previous years. Chain-store sales reflect the slowest rate of growth reported in some time, and department-store sales show a slight recession from the level of a year ago. The volume of foreign trade continued to decrease last month. The average level of employment reported for January throughout the country was the lowest since 1922. Coal production was considerably smaller last month than in December, if the normal seasonal

change is taken into consideration. Building contracts declined sharply from the January level during the first half of February.

"These irregularities are entirely natural and have not affected the atmosphere of confidence that has been created during the last two months. Business activity, on the whole, appears to be definitely on the up-grade; and, whether the recovery proceeds steadily and rapidly or whether it occupies a somewhat longer period, it is almost universally agreed that no protracted or severe depression in business will occur this year.

"The series of reductions in central bank rates, both in this country and in Europe, indicates the general easing tendency of money conditions throughout the world. It is generally expected that open-market rates in most countries will continue to move lower in the near future, particularly in view of the fact that such rates in many countries are still considerably higher than the central bank rates would indicate. The same is even more conspicuously true of the rates charged by private banks to their customers, to judge from the rather meager information that is available on this point.

"The liquidation of bank credit on security collateral is progressing gradually, despite the increases in brokers' loans that have resulted from the upward movement of stock prices. Brokers' borrowings in New York City are now larger than they have been since the end of November, but total loans and investments of reporting Federal Reserve member banks are $1,250,000,000 smaller than they were at that time. It is interesting, however, to note that about 75 per cent of the decrease in bank credit during the last three months has taken place in loans other than those secured by stocks and bonds.

"Thus far, there has been no resumption of the export gold movement that reached such large proportions in December; and the recent decline of the principal European exchanges to the lowest levels reached so far this year indicates that no large shipments are likely to be witnessed in the immediate future. A substantial amount of gold has been received from South America since the beginning of this month.

Edward B. Sterling Dead

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., February 24, 1930.—Edward B. Sterling, for many years a prominent figure in the paper industry of Northern New York, died suddenly this week at his home in Watertown after a brief illness. He was 84 years old.

When a young man he became identified with the Ontario Paper Company at Brownville, serving in an executive capacity until it was taken over by the International Paper Company. He had been identified with the West End Paper Company of this place, as a director and officer since it was incorporated in 1901. In 1904 he was chosen treasurer of that firm and two years later he was named general manager.

In 1917 he was elected president of the company and he served in that position until two years ago when ill health forced his resignation. His nephew, Samuel Wardwell, succeeded him as president and general manager, retaining the position until last September when the mill was sold to the National Paper Products Company.

In addition to his holdings in the West End Paper Company he was also one of the controlling directors in the Oswegatchie Paper Company at Natural Dam. At one time he was also president and a director of the Winona Pulp Company, of Carthage, and a vice president of the Harmon Machine Company which was absorbed by the Bagley & Sewall Company a few years ago.

G. W. Witham, Sr. Goes To Hopewell

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., February 24, 1930.—Announcement is made that George S. Witham, Sr., who recently resigned as manager of the production engineering department of the Union Bag and Paper Corporation, has taken the position as a consultant with the Hummel-Ross Fiber Corporation at Hopewell, Va. Mr. Witham has just returned from that place where he was engaged in consulting and investigating problems for various pulp and paper mills in the South. He expects to return in a few days and will make his home at Hopewell for an indefinite period.

Mr. Witham became connected with the Hudson Falls plant of the Union Bag and Paper Corporation twenty-five years ago after having been previously employed by the Great Northern Paper Company in Maine. At that time he was placed in charge of the manufacture of pulp and paper and it was only recently that he was appointed manager of the production engineering department when the company felt the need of a department for creating and developing special grades of paper. At the time he tendered his resignation he was one of the oldest employees from the viewpoint of service.

While he made his home in Hudson Falls he made an enviable record as village president for several consecutive terms during which time he supervised many municipal improvements. He is a prominent member of the American Society of Mechanical Engineers, a member of the United States Chamber of Commerce, and a director in several business institutions.

Brotherhood To Hold Referendums

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., February 24, 1930.—It is planned to vote on a proposed amendment to the constitution of the International Brotherhood of Papermakers relative to merging the offices of president and secretary at a referendum to be conducted late in March throughout this country and Canada. Those sponsoring the consolidation claim that the work of both offices should be handled by one person. At the same referendum another proposed amendment to the constitution will be voted on. This proposes that preference shall be given to the International Brotherhood of Papermakers in the employment of men as organizers for the union.

It is said that politics to a considerable extent is back of the proposed amendment consolidating the offices of president and secretary and that the proposition was first advanced last fall when supporters of Jeremiah T. Carey, a contender for the presidency, viewed his possibilities of election as being practically assured. It was felt that the consolidation of the two offices would eliminate Arthur Huggins, of Holyoke, the present secretary, who had lined up with Matthew Burns in the contest. The committee composed of John Bailey, Joseph Addie, Archie Hook and Frank P. Barry has returned from Canada where they were sent to investigate alleged irregularities in the vote cast by locals in the recent election of a president and are now engaged in making out a report which will be submitted to the executive board.

New Sulphite Mill in Finland Nearly Ready

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 26, 1930.—The government owned sulphite mill at Veitsiluto, Finland, is reported to be nearing completion, and it is expected that production of sulphite will start during April, accordng to announcements received by the Department of Commerce.

The capacity of the mill is 30,000 tons yearly, but initial production will be somewhat smaller than this until the workmen and machinery have been organized for the production of the calculated maximum output. The cost of construction and equipment of the mill will total approximately $2,343,000. This amount includes besides the mill, the construction of workmen's dwellings, warehouses, and harbor facilities.

FELTS THAT WEAR LONGER AND RETAIN THEIR OPENNESS ARE A REAL ECONOMY

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WOOL PRODUCTS

REG. U. S. PAT. OFF.

Kenwood Tanned Board Felts are the result of progressive scientific development. Their capacity for long service and their increased water removal properties are found in a basically sound design plus the added advantages of Kenwood patented tanning processes and the new method of yarn construction.

It was in Kenwood Felts that the one-sided board felt was first introduced. The Kenwood patented Tanning processes that add so materially to the life of a felt were a second fundamental Kenwood development. Now, the new method of yarn construction, which neither adds weight nor increases the size of the yarn, is added to the list of distinctly Kenwood features. Combined, they give the papermaker the ultimate in strength, openness, finish, long life—and felt economy.

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KENWOOD FELTS

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Making News Print Paper*

By Royal S. Kellogg[1]

Research has been defined by the President of a great university as "The probing by experts in the great field of the unknown."

The technical organizations of the pulp and paper industry stand primarily for research in the entire field of paper making and related problems. It is proper, therefore, that occasionally they should attempt some survey of these fields in the endeavor to chart the lines of most profitable investigation. The field of the unknown in pulp and paper has great dimensions.

Art or Science

For 1,800 years paper making has been an *art,* and news print paper, at least, is still largely made by rule of thumb. We get certain results, but why this is so we don't know. If the industry is to progress, it must be put upon a scientific basis from tree to printing press.

The fact that a certain thing has been done in the same way for 100 years by no means denotes that this is either the only or the best way to do it. It may be only an evidence of laziness or ignorance.

Observation of practically all North American mills convinces me that much news print is still made in "any old way." In the presence of a group of men like this, it is not necessary to give detailed examples in support of this statment. Just note the number and kinds of grinders; the diversity of cooking methods; the different kinds of machines and processes, to say nothing of auxiliary equipment, either present or lacking; and, above all, the absence of fundamental data upon the intrinsic qualities of the raw materials, and you have all the proof needed.

Iron has been used by the human race for unnumbered centuries, and its properties are supposed to be well known. Its manufacture is under the technical control of chemists, yet a special committee has recently been formed, backed by $150,000, for five years of basic research upon pure iron and its combination with other substances. It will not even attempt to discover or devise commercial alloys, which is held to be the business of the laboratories of the iron and steel industries.

If such an undertaking is deemed vital to the progress of the American iron and steel industry, how much more vital to the paper industry is research into its own relatively new and less understood raw material, which is wood?

Proportionate Costs

In an average operation the cost of a ton of news print, excluding administrative, selling and fixed charges, is made up about as follows:

Wood (Prepared)	45 per cent
Steam & Power	22 per cent
Labor	13 per cent
Repairs	7 per cent
Finishing & Shipping	6 per cent
Wires & Clothing	4 per cent
Sulphur	2 per cent
Stones	¾ per cent
Alum, Color, etc.	¾ per cent
Limestone	½ per cent

It is a reasonable assumption that there is the greatest opportunity for scientific control and economies in the items which enter most largely into our cost sheet. Strenuous efforts in some cases may have reduced the cost of lubricants 5 cents per ton of product. The same proportionate effort applied to wood, steam, power, and labor, may possibly save as many dollars per ton in total.

It is still a good rule not to devote all one's energy to stopping a trickle at the spigot while a stream continues to gush forth at the bunghole.

While not neglecting the small items, let us take a look at the big ones.

Wood

First comes wood, the basic and universal raw material for news print—so new that little is really yet known about it—and so relatively cheap and abundant that few serious efforts have been made to use it intelligently and economically.

Wood may come to the plant by rail or water; rough or barked, in short or long lengths—or in any combination of these six factors. But, holding strictly to our text, we will start with it at the mill, leaving to others the task of improving woods operations. In passing, however, I would like to note that the management of one large mill has recently decided that all its wood, by ship and rail, steam-driven and lake-towed, shall hereafter start its journey millward in four-foot lengths. From the pond, this same wood finds itself carried right up on the ascending chain by a current induced by a three-foot boat propeller, revolving beneath the foot of the jack ladder.

The engineer who thought of this simple expedient, and thus dispensed with several men on the booms, is known to many of you.

Once at the mill wood usually must be slashed, barked, piled outside from a few to many months, and then rehandled before it reaches the grinders or chippers. This series of operations alone may easily cost $2.00 per ton of paper, without counting interest on the investment in a wood-pile that may exceed a million dollars.

*Address delivered at the Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association, January 30, 1930, Montreal P. Q.
[1]Member TAPPI, Secretary News Print Service Bureau, New York, N Y

Pulpwood is a perishable raw material. It darkens with age, and is fed upon by insects and fungi. The actual loss in paper-making fibre runs into large figures where wood is carried too long before using, or where care has not been exercised in selecting and preparing storage grounds. Exprience teaches that there is less loss if wood is barked before piling and yet even today rough wood is going into storage to be hauled back at some later time for barking. Even a one per cent loss in a typical wood-pile may amount to $10,000 or 16 cents per ton on the paper that it would have made.

For the sake of brevity, we will assume that our equipment of slashers, barking drums, conveyors and stackers is of the best mechanical design and of most economical power requirement, although I am aware that this is a rather extravagant assumption. Still there is much opportunity for labor saving in layout and operation. Who hasn't walked through numerous wood rooms and noticed place after place where with a little change in plan, or with slight additional equipment, the number of men could be reduced?

I happen to have some comparable woodroom data. In their barking operations two mills handle approximately the same quantity of wood. One uses 2.9 men per 8-hour shift for each 100 cords of wood barked and the other uses 9.6 men for the same result or 3.3 times the number of men in the other mill. Two mills slash approximately the same quantity of wood in 8 hours. One uses 3.2 men and the other 8.1 men for 8 hours for each 100 cords slashed; that is, one mill uses 2½ times the number of men there are in another mill to do the same amount of work. All handle the wood in the water to the jack ladder. What would some of the engineer members of this section do with a situation of this kind?

And then there is bark. Shall we run it into a river until prohibited by the authorities, clog up a bay until we have to dredge it out, make an unsubstantial fill with it, or utilize its very considerable fuel value? Only in exceptional circumstances is the waste of bark now justified. Bark runs 10 to 12 per cent of the rough volume of the wood, with a fuel value of about 8,000 B. t. u.'s per lb. bone dry. At 50 per cent dry, which is commercially practicable, the fuel value is about 3,000 B. t. u. 's per lb. We know enough about the construction and operation of wet and dry drums, of bark presses, of drying towers, and of furnaces for wood fuel so that there are now no insurmountable problems in profitably using bark instead of throwing it away.

But we must hasten on. Starting from the block pile back into the mill, our wood stream divides into groundwood and sulphite plants. Now our troubles and uncertainties really begin.

First off, let me say that most mills have no data of any scientific value upon the amount of wood they use to make a ton of any kind of pulp. Going outside the news print field, for example, I recently learned of a prominent mill whose figures of pulp yields are more than twenty years old. In news print I know of only one company which is now building up records for an adequate determination of the exact quantity of wood fibre that goes into a unit of groundwood and of sulphite and thence into paper.

Perhaps I am simple-minded, but I am unable to understand how the efficiency of any operation can be figured with any degree of accuracy so long as its raw material is taken in by volume and its finished product goes out by weight.

The weighing and moisture sampling of wood and chips will, I am sure, soon be standard practice, accepted by mill managers, instead of being scorned as the theory of an impractical college graduate.

Groundwood

But what is groundwood? No one knows, or we should not have such a diversity of grinders, pulp yields and qualities —all contributing to one supposed standard product.

Due to the way in which it is made and the equipment used, groundwood contains fibres and fragments of fibres of every possible size and proportion. It was nearly 100 years ago the discovery was made that a paper-making material could be produced by holding a block of wood against a grindstone and keeping it from being burned up by the heat of friction through the use of a stream of water — and we don't know a great deal more today. We do have some data upon power requirements, and we are supposed to know about how fast the grindstone should turn and about how much pressure should be behind the wood. The whole operating force in a groundwood mill is little above common labor, however, and even the man in charge may have come up through this experience with no technical education or training whatever.

After the pulp comes from the stone, it is put into usable condition by passing through various sets of screens and sometimes over rifflers, but even the men in the mill laboratory know little, if anything, about the proportions of various fibre lengths and their paper-making qualities, which groundwood contains when it goes to the machines.

In the use of pulpstones alone, there is opportunity for great savings. I have a list of stone costs ranging from 6 cents to 60 cents per ton of pulp. Would there be any such range as this if grinding wood were scientifically understood and controlled? We have long known, for instance, that stones break less if well seasoned before used, yet so far as I am aware only one news print mill in North America has built adequate storage space with controlled temperature for its stones so that they will be taken out in rotation according to age. The prevention of premature breakage of three or four stones will pay for the cost of this installation.

Natural stones are unavoidably subject to all kinds of variation in constituents and makeup. Theoretically, it should be possible to make a vastly superior artificial product. The first artificial stone was tried nearly 60 years ago and progress is still being made in this direction. It will not be at all strange to see natural stones completely displaced—unless before that time arrives it is demonstrated that the use of any kind of a stone is altogether too crude and cumbersome a method of disintegrating wood—and this isn't beyond possibility either.

An improvement in groundwood which would make it possible to use 10 per cent more in a sheet of news print might save $2.00 per ton of paper.

Following the habit of putting water into wood and taking it out again, it was the practice for 50 years to lap pulp and then beat it up again to get it into condition for paper making. Then it was discovered that a short circuit could be made and the pulp kept in slush form, so wet machines and beaters, with all their attendant labor, disappeared with a saving in cost of several dollars per ton of paper.

We still follow the in and out method to some extent, however, because after having our material at very nearly the right consistency for the paper machines as it comes from the pulp screens, we run it through deckers to take the water out of it, and then dilute it again en route from the mixing system to the head box. A practical thin-stock consistency regulator seems to be just on the horizon, however, so that when we get it together with our present automatic metering systems and storage tanks, we shall be able to short-circuit the deckers, as previously was done with wet machines and beaters. Cutting out deckers may save us 30 cents per ton of paper — and even that is worth trying.

Sulphite

We left part of our stream of wood en route to the sulphite mill. Passing by the economies which are always possible through better plant layouts and better mechanical equipment

which turns out more product with less power, the sulphite mill offers great opportunities for either improvement in quality or saving in cost—and quite likely both.

To start with, it isn't at all certain that we know all we should about the size of chips and their uniformity. One of my most practical paper-making friends suggests the classification of chips into at least three sizes by means of rotary screens, with each size class cooked separately so as to secure uniformity of cooking times and yields. It is certain that a uniform product can come only from uniform raw material. In many plants as much as 5 to 6 per cent of sawdust is made in chipping the wood, much of which can be avoided by proper design and operation of the chippers. The question may also well be raised as to whether chipping is the best way of preparing wood for cooking.

Then there is lack of scientific determination of the rate and extent of penetration of chips by the cooking liquor.

Neither do we know nearly as much as we should about the effect of various cooking times and temperatures upon quality and yield. It is also probable that more can be done toward uniformity of temperature throughout the digester. Such information as we do have indicates that in the average operation, the yield might be increased as much as 10 per cent through more intelligent control of these items alone. This might make a saving of $4.00 per ton of sulphite manufactured. The mill chemist may be the alchemist to transform our spruce and balsam into gold.

In news print now 75 per cent or more of the constituent is raw wood and the balance rather pure cellulose sulphite. Is there any reason for producing sulphite of such quality for this purpose? The Madison Laboratory believes that semi-sulphite suitable for news print can be made with a yield of 75 per cent by weight instead of the present 45 per cent, and that with the use of rod mills to complete preparation there seems to be no reason why a larger proportion of semi-sulphite than of normal sulphite should be required.

Then there is the whole field of direct and indirect cooking; of insulated digesters, of non-corrosive materials which need not be lined, forced circulation methods and acid-accumulators, substantial progress in any item of which might make a very material saving.

It is within the range of reasonable practice to make sulphite with 2,000 pounds less steam per ton of pulp than the present average of 8,000 pounds. This means a saving of about 75 cents per ton of pulp.

Quite likely, there is a lot yet to be learned about acid-making. It seems pretty crude for each mill to go far and wide for limestone of varying properties, and to bring sulphur a distance of 1,000 miles or more in order to make for itself a simple chemical, which in a different organization of industry it should be possible to buy economically and of uniform quality from the makers of chemical products. Why shouldn't there be a tie-up of this kind?

Reports indicate variations of 40 per cent in the quantities both of sulphur and limestone used per ton of sulphite pulp. Cooking liquor varies widely in composition among mills that use similar wood to make the same grade of pulp. Even if the mills continue to make their own chemicals it should be possible greatly to improve their processes.

The question of waste sulphite liquor is always with us. This liquor contains half the weight of the wood. Chemists have been trying for nearly 50 years to find a profitable use for it. It looks as if a solution were near at hand, in which through recovery of its valuable constituents this troublesome material will be turned into profit instead of into our rivers.

Sulphite pulp goes through the same processes of screening, perhaps riffling, and then deckering, as does groundwood, and the same remarks apply here as in the other case. Deckers should disappear, and doubtless will, in the near future.

Screens for both groundwood and sulphite pulp are being rapidly improved. Some of the recent types are low in original cost, require very little upkeep, and take about half as much power as was required only a few years ago. Very material savings in space and operating cost are taking place in this field, and there is no reason why they should not continue.

My chemical friends say that little or no thought is given to the fact that fibrous raw materials are preeminently colloids and, as such, are possessed of properties which are subject to alteration with minute changes in acidity or alkalinity, or even in the concentration of various dissolved materials prevailing in very limited proportions. Softness, shrinkage in drying, opacity, surface finish and other important properties may perhaps be subject to changes and control by an intelligent accumulation and application of the knowledge of colloids.

Paper

Having brought our screened groundwood and sulphite together via consistency regulators and metering systems, let us assume that the stock, which may go through a jordan, is given a final screening before it reaches the head box, that the latest "eliminator" checks the current and keeps down the bubbles, and that finally it passes under a slice invented by a member of this section, and out on the wire.

The mixture now contains about 99½ per cent water, and is to be transformed into a sheet of paper containing 8 per cent water while travelling at the rate of 1000 feet per minute. As the total length of travel is some 600 feet this must be accomplished in about 40 seconds.

The water is taken out of the swiftly moving sheet in four ways: gravity; suction; pressure and heat, with the final surface given in the calenders.

The first paper-making machine was simply a moving wire screen upon which the pulp was carried through a single press with the drying still to be done as it was when hand-made. Then came the idea of running the sheet over hollow, rotating iron cylinders, heated with baskets of burning charcoal suspended inside. Stream followed next and then suction boxes and presses, and so, step by step, the paper-making machine was built upon the Robert-Fourdrinier basis, until we have the latest monster, weighing some 2,000 tons.

We will take it for granted that the present standard machine has suction boxes, as always, a suction couch and two suction presses, 46 to 48 dryers, with some good system of condensate removal, electrical or improved mechanical drive, reels and rewinders that do their jobs effectively, and that the sheet is carried through presses and dryers mechanically in case of breaks.

With such equipment, what more is needed?

I should say that there are two outstanding items:—First, automatic stock control which will regulate the weight of the sheet, and second, a method of operation and control whereby a suitably finished sheet may be made to carry 10 per cent of water instead of the present average of 8 per cent. In addition to giving a better printing surface there is no place in the mill where more returns can be secured than right here. When will some bright technical man turn the trick?

So far I have spoken only of standardized equipment. Ogden Minton has contributed a new idea in paper drying, and our good friends on the Saguenay are spending large sums to prove that he is right. They will evidently succeed. This means an entirely new set of problems, the solution of which is in the hands of the technical men, and the rewards from which mean another reduction in the cost of making paper.

Then our vigorous friend from Sandusky comes along and says that all the machine builders and paper makers are hidebound and at the end of a blind alley, and that he has an entirely new sort of paper-making machine, half as big, that will run

twice as fast. Now, if the licenses under the Millspaugh and Minton patents combine the wet end of one machine with the dry end of the other, we will have something really revolutionary in paper making and the experts can start in and learn all over again. And it is not out of the way to suggest that the successful outcome of experiments of this sort may to some extent depend upon much more scientific manufacture of pulp, and much better stock control than we have at present.

But let us get back to the present two or three roll, 1,000 to 1,200 feet speed machines. One makes 11 tons of paper per pound of felts and one ton per square foot of wires. Another makes 18 tons per pound of felts and 1½ tons per square foot of wires. It would appear that scientific operation could bring these two closer together.

One mill uses 7,000 pounds of steam in the dryers per ton of paper, and another 10,000 pounds per ton.

What proportion of the total steam consumption is really effective in drying a sheet of paper? In multiple effect evaporators for other materials, a pound of steam evaporates two or three pounds of water. In news print, it takes more than a pound of steam to evaporate a pound of water. Why should there be such a multitude of systems of condensate removal? Isn't this one of the indications that there is a lot yet to be learned about the application of heat to drying paper?

Seam costs an average of 38 cents per 1,000 pounds. If we save 1,000 pounds per ton of paper we save from $38.00 per day up on one modern machine. Evidently something is to be said for improved drying and ventilating systems. If, through better specifications and manufacture, or more careful usage, we make our felts, jackets and dryer canvas run only 10 per cent longer, we may save $5.00 to $10.00 per day on one machine. And in making these statements I am not ignorant of the inter-relationship between the use of steam and the life of machine clothing. A saving of several cents per ton on wires also looks reasonable.

And there are broke losses ranging from 2 per cent to 9 per cent. If we assume 4 per cent to be a reasonably attainable standard there are many mills which can greatly improve their operating efficiencies in this one item alone. An increase of 2, 3 or 4 per cent in output through better stock preparation and control, and more smoothly running equipment will amount to large totals on the year's balance sheet. Incidentally, I recently made up a list of machines having the highest trim-speed production factor, and there was not one so-called "modern machine" on the list—nor one running over 700 feet per minute.

The average finishing and shipping room has always impressed me as showing the least sign of progress of any part of the paper mill. Wrapping is still done entirely by hand except to a small extent in a few cases where heading equipment has been installed, and generally men are seen moving heavy rolls about on hand trucks. Finishing represents a small proportion of the total cost, it is true, but every small item saved is just so much gained. Time and again we have heard about a roll-wrapping machine designed to do the whole job, including weighing and stenciling, but none has yet gone into practical operation in America. Compared to the complicated machinery in many other industries it would seem comparatively simple to develop a roll-wrapping machine which would do away with nearly all hand labor in the finishing room.

Then again, in many plants there is not enough mechanical equipment in the way of cranes or conveyors for the handling of paper into either storage or cars. The saving of the labor of only one man for a year would pay interest on an investment of $10,000 in equipment. There should also be a larger use of ball or roller bearings.

Then we have the old question of cores. After a long struggle, the iron core, except in a few isolated cases, has disappeared in favor of the less expensive fibre core with a metal cap. The next logical step is a light-weight, non-returnable paper core, generally made by each mill from its own screenings, as are wrappers, and the entire mill product sold gross weight. It is not unusual now for a large mill to have $150,000 tied up in cores, to say nothing about their high "nuisance value" to both the paper manufacturer and to the publisher, who must return them. Only in rare cases is the strength of the present core necessary to avoid damage in shipment. I am confident that the whole thing could be done away with if there were purposeful cooperation between the paper makers and the mechanical superintendents in the press rooms.

Steam

Next to wood, steam and power are our most expensive items in the manufacture of news print paper, and the greatest of these is steam. Larger savings in the past few years have been made in steam plants than in any other department of the industry, but there is still great opportunity for progress.

The modern hydro-electric plant is close to its possible maximum efficiency at the production point. The savings here must come largely through improvements in transmission; on the other hand, there was little real gain in the efficiency of steam plants for nearly 100 years. Now the up-to-date steam-electric generating plant gets nearly twice as much energy from a pound of coal as did the up-to-date plant of only fifteen years ago—and there is still a wide gap to be spanned before we reach the maximum possible efficiency of steam generation and utilization. A steam plant has the advantage that it can take a very low grade cheap fuel, and by means of either stokers or pulverizers extract nearly all the energy from it. In the best of the modern steam plants hand labor has been almost as completely abolished as in the hydro-electric plant. Steam units are going in which dwarf the greatest thing yet attempted with water power as, for instance, the 200,000 horse power turbo-generating set which has just been installed in New York City, whereas the largest single hydro-electric unit is not half this size.

Of course, these great steam generators are far beyond the requirements of a news print mill; but on the other hand, just as efficient ones in smaller sizes are entirely practical, and we are getting some very low steam costs in some of the latest mills through the use of furnaces with water walls, preheaters, economizers and the generation of high-pressure steam.

Apparently we are just entering an era of high pressures. A railway locomotive has just been built for 500 pounds pressure and it is not unlikely that before long we shall have twice as great pressures in common use at stationary plants.

With steam economically generated at high pressures, extraction turbines for power and process steam taken from them, great economies of operation have been effected—and the end is not yet!

There is still a long way to go in the utilization of steam because, like water, a great deal more has so far been used than is necessary under good practice. We have made progress, however, since the days when James Watt labored vainly to have Parliament prohibit the use of more than 6 pounds pressure in steam engines.

Labor

The total cost of labor in an integrated mill is between $4.00 and $5.00 per ton of newsprint. Very substantial economies have been effected in labor items during the past five years, as indicated by the fact that conversion costs have been materially reduced without any reduction in wage rates. Very largely this has been accomplished through increased size and speed of equipment. A machine making 150 tons of paper a day requires only two more men to tend it than one which makes 50 tons. Magazine grinders may make mechanical pulp with only 50 per cent as much hand labor per ton of product as pocket grinders; and larger digesters take fewer men per ton of pulp in a sulphite mill.

Taken all together, the labor inside the best modern news mills, from grinder and chipper rooms to shipping shed, including acid and steam plants, excluding electric and water power, is about 8 man-hours per ton of paper. There are other mills which take 13 man-hours to make a ton of paper. But there is still too much hand labor, and it is safe to say that it could be considerably

reduced if we gave the task of so doing to a special engineer when we start to build our plant. I would also like to suggest that he give his first attention to the finishing and shipping rooms, so far as reduction in labor is concerned.

Repairs

And then there are repair bills, which naturally run more heavy in old plants than in new ones, but which, in any event, may average up to $2.50 per ton. To a considerable degree, the extent of repairs can be reduced through carefulness of design and operation, and the cost held down to a reasonable figure through a budget method for all major items. An engineer with some training in accounting can make a good record in this field.

General

There are a number of general plant savings; the total of which may easily go beyond $1.00 per ton even if they are only partially successful.

The average news print furnish today is about 80 per cent groundwood and 25 per cent sulphite, although some mills report as low as 15 per cent sulphite and some as high as 30 per cent. Contrary to popular opinion, there seems to be no direct relationship between the proportion of sulphite and the strength of the sheet shown by the Mullen test. There is reason to believe that research and experiment in the production of mechanical and chemical pulp might show us how to make an entirely satisfactory sheet of news print with as low as 10 per cent sulphite content and substantial saving in cost.

In some mills screenings wasted amount to 3 per cent of the groundwood made, and 5 per cent of the sulphite. It should be possible to reduce these wastes to 1 per cent, either through improvements in operation or the use of refiners, of which several types are available. The extent to which screenings go into cores, wrappers and board stock may be considered a reasonable solution of the problem, but there are still mills in which screenings are run into the river.

Then there is the question of whitewater losses. Due to the general adoption of better systems of re-circulation and of save-alls and filters of various kinds, these losses are much less than they were ten and even five years ago. Going outside the news print field again for a horrible example, I am told of a mill which takes over 120 pounds of stock for 100 pounds of paper shipped. In an average news print mill the furnish is about 106 per cent when it is reasonable to assume the practicability of a furnish of 102 per cent if the best equipment is used and a closed system maintained. Of course, many so-called "closed systems" have pretty wide openings if closely inspected, and there is complaint that one which is really closed produces slime. However, it has been found possible to overcome slime and it is important to remember that a reduction in furnish from say, 106 per cent to 102 per cent may easily amount to 50 cents per ton of paper made.

Really, a part of this question of whitewater losses is that of the amount of water used in the mill. Very frequently water is used as if it were unlimited in quantity and without cost. In some places the quantity used in the paper mill alone amounts to 50,000 gallons per ton of product. On the other hand, a case is on record where a mill which had to buy its water from a city at metered rates used only 2,500 gallons per ton of paper—and made a satisfactory sheet, too. In another plant the water supply for a mill has cost $1,000,000, in construction of storage and pipe-line. This will not be cheap water.

Last to be mentioned, but first in importance is a system of cost standards by which the efficiency of all methods may be quickly and adequately determined and the unprofitable ones dispensed with before they have time to run into material losses.

Progress

The suggestions I have so freely made may seem a counsel of perfection, but in each instance they are no more than has already been accomplished somewhere. I realize also the impossibility of maintaining 100 per cent efficiency in men and equipment all the time. Nevertheless, it is the constant striving to this end that carries us forward. While much has been said about improvement in methods and machines the human factor will always remain of great importance. An authority tells me that of 140,000 men in the North American paper industry not more than 3,000 are making any effective effort to improve themselves. There is much yet to be done in the field of human engineering. However, we do have leaders who understand that progress is not only inevitable but desirable, and to them we look for further advances.

The recent less profitoble times for news print have forced demands for economies and efficiencies that might otherwise have been long delayed. The technical man who can make good now has a better chance than ever before. Moreover, he is young enough to outlive many of the old-timers who scorn technical methods. He is the one who may transform paper making from an art to a science, and his reward will come to the extent that he is qualified to take advantage of the opportunities on every hand.

Progress in the manufacture of news print in recent years has been more rapid than in any other branch of the paper industry. This has been partly caused by the stress of competition, but more largely brought about, I believe, by the willingness of all concerned; from executive to workman, to put their knowledge into a common pot so that each might draw therefrom the portion best adapted to the solution of his particular problem. May this spirit always continue!

TAPPI Notes

Egmont N. Wennberg has left the International Paper Company, Bureau of Tests at Glens Falls, N. Y., to take a position in the research department of the Continental-Diamond Fibre Company at Bridgeport, Pa.

Philip H. Prior, research chemist for A. E. Reed & Co., Aylesford Paper Mills, Larkfield, Kent, England, was a visitor at the Technical Association office this week.

H. J. Atkinson who has conducted the course in paper making of the Pulp and Paper School of Edmundston, N. B., has resigned to become chief chemist of the Restigouche Company, Ltd., at Athol, N. B.

T. A. Cape, formerly superintendent of the Champion Coated Paper Company, Hamilton, Ohio, is now with the Continental-Diamond Fibre Company, Bridgeport, Pa.

W. L. Nixon, vice president of the American Writing Paper Company, Holyoke, Mass., is to resign this position to become vice president and general manager of the Moore & White Company of Philadelphia, on March 1st.

Laurin S. Sabatke, formerly at Iowa State College Station of the Bureau of Standards, is now with the Maizewood Products Company, Dubuque, Iowa.

Allen Curtis Resigns

Announcement is made by International Paper Company that at a meeting of the board of directors on February 18, the resignation of Allen Curtis as first vice-president was presented, to take effect March 1. In accepting the resignation the board of directors adopted the following resolution:

"RESOLVED, that we, in accepting the resignation of Mr. Allen Curtis, do so with sincere regret. We feel that his unwavering loyalty and earnest efforts have contributed materially to the Company's welfare, and desire to express to him our sincere appreciation for these services and to extend to him our best wishes for the future."

Mr. Curtis has been connected with the Company since 1900, eighteen years as Manager of Department of Manufacturing, ten years as a Director, four years as a Vice-President, and since January 1, 1927 as First Vice-President.

Mr. Curtis is the son of the late Warren Curtis, one of the pioneer manufacturers of paper from wood pulp and founder of the pulp and paper industry at Corinth, N. Y.

Proposed Standard Method of Measuring, Sampling, and Analyzing White and Waste Waters.*

A primary object of the method of white water evaluation given below is that of inducing the different mills to employ substantially the same methods of procedure and to report their findings in standard terms. Agreement and uniformity regarding each of these two points has heretofore been lacking. The method given here is the outgrowth of a suggestion of the American Paper and Pulp Association that the Technical Association adopt a method generally acceptable to the industry.

The method given below is intended to evaluate as completely as practicable the paper mill white waters and to separate their constituents, both suspended and soluble, into portions of fiber and other materials. In the case of chemical plup mill and similar waste waters the method intends only to evaluate the fiber content.

The problem of stream pollution was kept in mind when preparing the present method. In this latter application the method does not pretend to cover the question of the chemicals, dissolved incrustants from the wood. etc. contained in the wastes from chemical pulp mills. Here, as stated, the determination only of what can properly be called fiber is intended. In the case of paper mill white water, however, it is intended that all of the constituents originating from the furnish be included. The same holds true for the white water from a mechanical pulp mill.

In the case of paper mill white water it is necessary to realize that there is a distinct difference between what is commonly called "shrinkage" and the material actually present in and lost with white water. Altogether too many men believe that the white water loss accounts entirely for the "shrinkage." The "shrinkage" not accounted for by the white water may be largely due to errors in the book figures or it may be due to material lost in other ways during the paper making operation.

The present method is intended primarily for intensive white water survey work covering periods of about a week or two. It is not necessarily to be used for daily routine control work. For the latter case a modified, that is a shorter method will generally suffice. The present method should, however, serve as a guide for a suitable daily control method. This is particularly true as far as the determination of total solids and the method of expressing results are concerned. An occasional complete and intensive white water survey, including the determination of soluble matter, is really necessary for determining the nature and value of the loss. Such a survey is much more reliable, when considering the economy of expenditures for more efficient saveall and other white water equipment, than a large number of the daily routine tests as now made in the average mill. Book figures on "shrinkage" are entirely unreliable as a guide when considering the economy of such capital expenditures unless substantiated by a reliable white water evaluation.

1—Measurement of White Water Volume

The effluents from every separate manufacturing unit such as a paper machine, the wet machine room, the sulphite blow pits, etc, should be kept separate in each case and led to a suitable outlet or sewer. Streams of fresh water and discharges from other miscellaneous sources should be kept out of the white water streams. The outlet from each manufacturing unit should be provided with a suitable metering device for indicating or integrating the flow. A v-notch or a rectangular weir is satisfactory but it should have a sharp orifice and it should be preceded by a channel sufficiently wide so that the approach velocity of the liquid at the weir will be low. Suitable liquid level recorders for continuously recording the head are suggested. Directions for installing and using weirs are to be found in a number of the well known engineering and hydraulics hand books. In order to insure accuracy, care is necessary when installing the weir and when measuring the head.

The averaging value for the rate of flow in gallons per minute is to be obtained either by means of a properly calibrated mechanical recording or integrating device or from periodic readings taken at regular intervals. One reading every 15 or 30 minutes during the 24 hour period is suggested.

The flow of white water should also be calculated and reported in terms of the tons of production. In this way the average and the necessary discharge is found and standards can be adopted.

$$\text{Calculation: } \frac{\text{Ave gallons per minute} \times 2{,}880{,}000}{\text{Net pounds of product during the 24 hours}} = \text{Gallons of white water discarded per ton of product.}$$

II—Sampling of White Water

A composite sample for the 24 hour period is to be obtained either by means of a suitable automatic sampling device or by combining portions collected at regular intervals, every 15 or 30 minutes. In any case it is preferable that the increments of the composite sample be taken proportional to the rate of flow. This is very important if there is much fluctuation in the concentration. The point at which the sample is taken should be such that the sample will be representative of the entire stream at that time (in order to guard against stratification). It is suggested that the sample be collected from a small box so placed below the weir orifice that the entire stream falls into it and agitates its contents.

The composite sample should be large enough to allow accuracy during analysis. If the sample is liable to suffer decomposition before analysis it may be protected by the addition of a little chloroform or other suitable preservative.

In some cases, e.g. on chipboard and similar grades, decomposition is very rapid and the sample should be analyzed immediately (within two hours after collection) instead of depending on a preservative.

III—Method of Analysis

(1) Total Suspended Solids (Largely Fiber and Filler)

A suitable portion of the well mixed composite sample (about 2000 cc.) (larger if possible), is measured off with a graduated cylinder and filtered through a previously dried and weighed filter paper. A 15 cm. Buechner funnel with fairly small perforations, a rather thick but fast filtering qualitative filter paper, a two liter filter flask, and suction are recommended for the above volume. But care must be taken that none of the suspended solids pass over the edge of the filter paper without being retained. If the filtrate is cloudy is should be passed through the filter a second time. After all the water has passed through the filter the contents of the funnel are washed with several small portions of distilled water. The filter paper is then removed from the funnel. Any deposit adhering to the funnel should be combined with the deposit on the filter by wiping it out by means of the filter paper. The filter paper and its contents are dried to constant weight at 100 to 105 deg. C. Do not prolong the drying unnecessarily. The

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 20, 1930, by the sub-committee on white water, A. W. Pesch, chairman.

filter paper should previously have been dried to constant weight at the same temperature.

By arranging a suitable rack above the funnel and placing the sample in a suitable bottle or flask, the latter being then inverted so that its neck extends into the funnel, considerable time can be saved during filtration.

For drying and weighing the filter paper, both before and after filtering, a combined drying oven and balance is a great time saver. Such an apparatus can readily be built at the mill from a suitable laboratory oven and balance. For the volume suggested above, a balance having a practical sensitivity of one milligram is sufficiently accurate. Such a balance with a chainomatic attachment and with the column reading from zero to one gram by milligrams is particularly useful for this work. A balance of this type adapted for mounting on a drying oven can be purchased from an American balance manufacturer. Other suitable types of balances have a beam equipped with a rider mechanism reading from zero to one gram by milligrams. Air currents in the oven, great enough to interfere with the weighing, are to be guarded against. The balance is to be mounted in a regular glass walled balance case.

If such a balance is not at hand or if smaller volumes of white water are used for analysis, a covered weighing bottle and an analytical balance should be used for the weighings.

The gain in weight of the filter paper is a measure of the oven dry total suspended solids present.

CALCULATION: $\frac{\text{Grams of oven dry total suspended solids} \times 8345}{\text{Volume of sample in cc.}}$

equals pounds of oven dry total suspended solids per 1000 gallons of white water.

Dividing this result by 0.9 converts the total suspended solids to the ten per cent moisture basis which, providing inorganic matter is practically absent, is a measure of the air dry fiber content of the white water.

The product of the average gallons of white water discharged per minute times the pounds of oven dry (or air dry) total suspended solids per 1000 gallons times 1.44 gives the pounds of oven dry (or air dry) total suspended solids lost per 24 hour day.

By dividing the result just found by the net pounds of production during the 24 hours in the department concerned and multiplying by 2000 we have the pounds of bone dry (or air dry) total suspended solids lost per 2000 pounds of product.

The method of analysis given above for total suspended solids applies particularly to cases like paper machine and ground-wood mill white water. In the case of waste waters from sulphite blow pits, sulphate mill diffusers, and similar wastes it is often found that a filter paper retains appreciable quantities of chemicals and incrustants that cannot be removed by washing and which cannot properly be regarded as pulp or paper making material. In these cases the filter paper should be replaced by a disc of cheesecloth, or a specially constructed filter having a piece of 200 mesh wire cloth as the filter medium should be used. The latter is easily constructed along the lines of the ordinary sheet mold. The wire of course must be removable. The wire rests on a hollow square or annular frame with a machined surface. A hopper of similar dimensions rests on top of the wire and serves both for holding the sample and for making a seal with the wire and the bottom member. Gaskets of soft rubber attached to the surfaces above and below the wire provide an effective seal. A small amount of suction is sufficient with such an apparatus.

In the case of both the cheesecloth and the wire cloth filter, the filters are dried and weighed before and after filtering and the procedure is otherwise the same as when paper filters are used. In the case of the particular type of waste waters here concerned the material retained on the filter is calculated and reported as air dry fiber and no determination of the fixed suspended solids is made. In these cases, also, no determination is made of soluble material in the water.

(2) Fixed Suspended Solids (Largely Filler Residue)

This determination is particularly important in the case of paper mill white water when fillers are used in the furnish.

The filter paper from (1) above and its contents are placed into a previously ignited and weighed porcelain crucible (or other suitable container), the organic matter carefully burned off, and the residue ignited to constant weight.

The crucible and its contents are cooled in a desiccator and weighed on an analytical balance. The weight of the residue minus the weight of the ash in the filter paper is a measure of the fixed suspended solids per 1000 gallons of white water.

CALCULATION: $\frac{\text{Grams of fixed suspended solids} \times 8345}{\text{Volume of sample in cc.}} = \text{pounds}$

of fixed suspended solids per 1000 gallons of white water.

In applying the result of the above calculation it must be recognized the fillers such as clay contain first of all a certain amount of mechanical moisture which is driven off by drying at 100 deg. C. Furthermore the fillers generally also contain other volatile constituents, such as water of constitution, which are driven off during ignition. By drying samples of the filler constituents (present in the specific case) at 100 to 105 deg. C. and subsequently igniting them factors are obtained for converting the fixed suspended solids to the oven dry basis and to the basis as furnished into the beaters.

With this in mind the fixed suspended solids are calculated in terms of the loss per 24 hours and the loss per ton of production (preferably on the basis as furnished into the beaters) in a manner analagous to that given for the corresponding items under (1) above.

(3) Volatile Suspended Solids (Largely Fibre)

CALCULATION: Pounds of oven dry total suspended solids per 1000 gallons minus pounds of fixed suspended solids per 1000 gallons (converted to oven dry basis) equals pounds of oven dry volatile suspended solids per 1000 gallons of white water.

The result of this calculation is practically speaking a measure of the oven dry fiber content of the white water. By dividing the oven dry value by 0.9 the result is expressed in terms of air dry fiber per 1000 gallons. Calculate also in terms of loss per 24 hours and in terms of loss per ton of production.

(4) Total Dissolved Solids (organic matter from pulp, dissolved filler constituents, portions of the various other chemicals in the furnish, material originating from water supply, etc.)

Place an aliquot portion (as large as feasible) of the filtrate and washings from (1) into a previously ignited and weighed glazed porcelain crucible or evaporating dish, platinum is preferable) and evaporate and dry to constant weight at 100 deg. C. Avoid prolonged heating. Cool in a desiccator and weigh (quickly). The weight of the residue in the crucible is a measure of the oven dry total dissolved solids present.

CALCULATION:

$$\frac{\text{Grams of oven dry total dissolved solids} \times 8345 \times \text{aliquot factor}}{\text{Volume of original sample in cc.}}$$

equals pounds of oven dry total dissolved solids per 1000 gallons of white water.

Note: A part of the total dissolved solids in the white water originates from the soluble material present in the fresh water supplied to the mill. In most cases the water supply probably contains at least 7 grains of solids per gallon. That is equal to one pound per 1000 gallons. In many cases the solids content of the fresh water is considerably higher. Obviously the solids introduced into the white water from this source cannot be considered as a loss. Therefore, a blank determination should tion is to be made in a manner similar to that given above (4). be run on a sample of the water supply. This blank determina- The solids in the fresh water are to be calculated in pounds oven

dry per 1,000 gallons and that figure is to be subtracted from the total oven dry dissolved solids in the white water. The result of this subtraction is regarded as the measure of the total dissolved solids originating from the furnish. This is not strictly correct because some solids present in the fresh water remain in the paper and a part of them suffers decomposition during the paper making process.

(5) Fixed Dissolved Solids (inorganic residues from furnish and water supply)

The crucible containing the solids from (4) above is ignited to constant weight, cooled in a desiccator and weighed. The difference between the weight so obtained and the original weight of the crucible is the weight of the fixed dissolved solids present.

CALCULATION:

$$\frac{\text{Grams of fixed dissolved solids} \times 8345 \times \text{aliquot factor}}{\text{Volume of original sample in cc.}} =$$

Pounds of fixed dissolved solids per 100 gallons of white water.

A part of the value so determined consists of matter originating from the water supply. The latter is determined by igniting the crucible containing the oven dry residue from the blank determination on the fresh water (see note under 4 above). The ignited crucible containing the fixed residue from the blank is cooled in a desiccator, weighed, and calculated in terms of pounds per 1000 gallons. The fixed dissolved solids in the white water minus the fixed solids in the fresh water is regarded as the measure of the fixed dissolved solids originating from the furnish.

The latter result does not, however, represent the true weight of the dissolved inorganic matter originating from the furnish either on the oven dry basis or on the basis as furnished. The reason for this condition is because the inorganic material suffers decomposition during drying and ignition (as pointed out under (2) above). To determine accurately the factors for converting the fixed dissolved solids to the oven dry and "as furnished" basis is rather difficult, if not impossible because of the large number and the uncertain composition of the inorganic materials that may be present. If the importance of the case warrants it, however, such an attempt is advisable in order to be able to tell what part of the dissolved material is inorganic matter and what part is organic (and hence possibly of pulp origin).

(6) Volatile Dissolved Solids (organic and inorganic matter volatile on ignition)

CALCULATION: Pounds of oven dry dissolved solids per 1000 gallons minus pounds of fixed dissolved solids per 1000 gallons equals pounds of oven dry volatile dissolved solids per 1000 gallons of white water.

From the discussion under (5) it is apparent that only when the fixed dissolved solids are calculated to the oven dry basis is it possible to calculate the true air dry (or oven dry) weight of the organic matter present in the dissolved solids.

Manner of Reporting Results

(A) Item or department covered by survey.....
(B) Period covered by survey .....
(C) Production during period (production here and below means the net or delivered production) .....pounds.
(D) Average gallons of white water discarded per minute.....
(E) Average gallons of white water discarded per ton of product.....
(F) Loss and rate of loss:
(1) Total suspended solids:
(a) Pounds lost,—oven dry:
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(b) Pounds lost on 10 per cent moisture basis:
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(2) Fixed suspended solids:
(a) Pounds lost, (as determined):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(b) Pounds lost, (as furnished):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(3) Volatile suspended solids (volatile on ignition):
(a) Pounds lost, (as determined):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(b) Pounds lost, (organic portion only and on 10 per cent moisture basis):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(4) Total dissolved solids (less total solids in water supply):
(a) Pounds lost, (oven dry):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(5) Fixed dissolved solids (less fixed solids in water supply):
(a) Pounds lost, (as determined):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....
(6) Volatile dissolved solids (volatile on ignition less volatile solids in water supply):
(a) Pounds lost, (as determined):
I—per 1000 gallons.....
II—per 24 hours.....
III—per ton of product.....

Note:—The term "as determined" under (2), (3), (5) and (6) means as weighed according to the method of analysis without accounting for the decomposition of the inorganic matter during ignition. The term "as furnished" under (2) refers to fillers on the basis of their weight before furnishing.

Developments in White Water Utilization*

By C. M. Baker[1]

The more recent developments in white water utilization confirm the practicability and economy of the closed or substantially closed system. Some of the more prominent developments in the various classifications are discussed below.

One board mill has operated for a number of years on substantially a closed system. The white water from several machines is collected in a common pit whence it is pumped to a sidehill saveall. As it reaches this saveall the white water contains about 8 pounds of stock per 1,000 gallons, one half of which is recovered and returned to the stock chest. The effluent from the sidehill saveall then flows by gravity through a sedimentation type of saveall to a sump from which the mill water supply is taken, any deficiency being made up by fresh water from an inlet controlled by a float valve. The sludge from the sedimentation saveall is utilized as stock in the beater.

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 20, 1930.
[1] Member TAPPI: Engineer, American Paper and Pulp Association.

The only fresh water entering the system, therefore, is that necessary for make-up for evaporation, except that due to insufficient capacity of the sump to take care of fluctuation in flow, white water is at times wasted due to building up in the system. Chlorination is used a part of the time to control slime.

Another board mill has reduced its water consumption to about one-third what it normally was by recirculation of the white water from the fan pumps directly through the cylinder mould showers. To accomplish this it has been necessary to enlarge the openings of the showers, and direct them more tangentially to the surface so that accumulated material is washed off rather than through the wire.

Several tissue mills operate on closed systems. One provides each machine with a highly efficient saveall, the effluent from which is returned directly to the machine as its source of water supply and the recovered fiber to the stock chest. In another the white water from several machines running various colors is collected into a common pit and passed through a single highly efficient saveall. The recovered stock is returned to the groundwood chest and the effluent water becomes the mill water supply. There is a small overflow at this mill due to insufficient capacity of the saveall. At another mill the white water from each machine is passed through a relatively inefficient saveall and returned to the machine.

The manager of one of these mills describes difficulties that he encountered in closing the white water system, somewhat as follows:

"I turned the problem of white water utilization over to an engineer who knew practically nothing about paper-making, and asked him to study the problem and develop a closed system on a certain designated machine. He changed the piping in the basement so as to pass the white water through a saveall, and return the efficient back onto the machine. Fresh water was shut off so that it could not be secured by the machine operators. I then assigned our best machine operator to this machine. We ran for about three weeks in this manner. I passed through the mill every day and asked the boys how they were getting along. Invariably the reply was that certain difficulties were encountered because of too much white water. At the end of about three weeks I told the engineer to change the system during the weekend so that nothing but fresh water reached the machines, but to say nothing about it. This change was made, and during the following week I went through my regular routine of visiting the machine daily and asking how things were going. The same replies were received trouble, and too much white water. At the end of the week I called the whole group into my office for a conference. I first secured confirmations from them in their previous statements. and then advised them that they had had no white water during the past week. Our mill is now operating on a closed system."

Considerable has been done in certain book mills in developing closed systems. Sedimentation savealls have been favored in the past in this classification because of the large amount of filler used. Some mills, however, have recently changed to the higher grade of mechanical savealls. One book mill has reduced its water consumption and white water waste to about 1,300 gallons per ton of product. In discussing this development with the technical director of the mill he advised me somewhat as follows:

"We installed three or four white water systems in our mill before getting one that was entirely satisfactory. Difficulties have been encountered. White water utilization does affect the quality of a paper. I do not mean that we are now turning out an inferior grade, but adjustments in our formulae and process have been necessary to compensate for chemicals and materials returning with the white water. This, however, has resulted in a saving in chemicals."

I recently visited a kraft pulp mill, purchasing its water from a city at a cost of about $150 daily. The consumption was 60,000 gallons per ton of product. I had previously visited a kraft pulp and wrapping paper mill operating with less than 20,000 gallons of water per ton of pulp for all purposes, including the pulp mill, paper machine, boiler, and other uses. A commensurate reduction in the former mill would result in a saving of $100 daily. The economy in the one mill is the result of reuse of the white water. Chlorine is used to control slime.

There should be no white water wasted from a paper machine operating on news print. Recirculation is feasible, practicable, and is being successfully carried on in a number of mills. The excess white water, due to flush stock brought over from the pulp mill may be returned to the pulp mill for the washing of pulp and feeding the grinders.

The waste in this classification is extravagant. Enter almost any writing paper mill, and you will find large quantities of perfectly good rag stock discharging through the sewers. Probably less effort is made to recover the stock in the fine writing paper mills than in any other classification, yet its value is the greatest.

Summary of Observations

From careful observations, a study of conditions, and data available, I have come to the conclusion:

1. That a closed white water system is economical and practical in every classification of the industry without deleteriously affecting the product.

2. The more concentrated white water directly from the machine, as from the wire trays and suction boxes, should be used as beater make-up and for the dilution of the stock at various points in the system.

3. White water should be used on all wire and cylinder showers.

4. In board mills and probably some other classification, white water may be used on the showers without passing it through savealls. In other instances savealls of varying degrees of efficiency will be required.

5. Not more than one fresh water shower is needed on a felt and if highly efficient savealls are used, its effluent may be used successfully instead.

6. Showers become more effective if directed tangentially rather than perpendicularly to the surface so as to wash off rather than through the wire or felt, except where placed on the opposite side of the wire from the accumulation of the fiber or dirt to be removed.

7. Chlorination or some other form of sterilization is necessary to control slime.

I stated that a closed white water system is practical. There are, however, certain problems to be considered in connection with its economical development. Their solution will vary somewhat in the different classifications and also individually for different mills. They are as follows:

1. The extent to which white water may be utilized on showers and throughout the system without the use of savealls. It is believed that with proper adjustment and location of the showers this is possible to a much greater extent than is now being practiced.

2. The type of saveall required and degree of efficiency necessary for such white water as can not be returned.

Procedure in Closing the System

Bearing in mind the above conclusions, there are four major items to consider in developing a closed white water system as follows:

1. A white water survey is first necessary to determine the existing losses, and the extent to which expenditures for their recovery are economically feasible. Furthermore, such surveys are desirable as improvements are made in order to evaluate their results.

2. Reduction of fresh water to a minimum, irrespective of white water utilization is essential both to economize water and simplify the use of white water.

3. Recirculation and reuse of the white water without savealls is the next logical step. This further reduces the amount of fresh water required, recovers a certain amount of fiber and reduces the expenditure necessary for savealls and other recovery equipment.

4. Saveall equipment should be the last item of consideration with a view first, of recovering fiber and paper-making materials and returning the saveall effluent to the white water system, and second, of treating any residual white water which it may be necessary to waste.

Modern High Pressure Steam Generation*

By J. B. Crane[1]

We have all heard about the advantages of high pressures for the generation of power and the economies that can be effected in industrial plants by using steam for the generation of power before the steam is used in process work.

The industry represented here has not been backward in availing itself of these advantages as is indicated by the fact that the majority of these installations, thus far made, has been in the paper industry. This was to be expected because your demand for cheap power has been increasing, available cheap water powers have been developed and your large use of steam for process work has made available this means of securing additional power for the lowest cost.

Several high pressure installations have been in operation long enough so that we should know how they have worked out in actual practice. Have the engineer's estimates been too glowing? Have the expected results been obtained? I am glad to tell you operations have borne out the predictions. Troubles have been less than expected, operating expenses are no higher than for lower pressures, maintenance costs have thus far been lower rather than higher than expected and while the high pressure plants have not been in operation long enough to secure final figures on this point there is every indication that the operation and maintenance will continue to be favorable when compared with the low pressures. The reasons for this can be stated in a few words: (a) knowledge of the subject, (b) conservative design.

In the period since the war, there has been increasing demands for steam generating units for larger outputs and higher pressures to care for the demands for large blocks of power from the public utilities and industries. Furnace maintenance with the usual refractories had become a serious problem, not only on account of excessive costs but because boilers must be taken out of service for refractory troubles and thus interfere with production. This feature also limited the capacity of steam generating units. The development of air cooled refractory and water walls has allowed the engineer to develop designs without this limitation and a recent report[2] on actual operation as presented to the American Society of Mechanical Engineers indicates that the availability factor of steam generating units is practically as good as turbine units, that is, they are in service or ready to go into service 80 to 90 per cent of the time. This includes the boiler with its auxiliaries of superheater, furnace, fuel burning equipment, feed pumps, etc. This report listed the equipment for different pressures and the availability factor of the high pressure equipment was higher than that for low pressure apparatus. The designer of high pressure equipment had the advantage of the experiences of the design, construction and operation of the low pressure equipment and in addition the benefit of research work on high pressure apparatus which has been conducted for the past several years by industrial concerns here and abroad as well as that conducted by our government bureaus and universities. While considerable of this research work did not give definite answers to all the problems involved, it indicated the trend and the engineers on high pressure work have been conservative in their designs pending the results of actual operating data. Problems in steam release and water circulation, not even considered a few years ago, have received increasing attention so that various factors can be forecast and provided for. It was found that while higher pressures have smaller steam bubbles and less volume required in circulators due to lower natural circulation, yet as much volume in the circulators would be needed or trouble would be experienced in starting up and shutting down when the unit was going through the low pressure range. It should also be remembered that the metallurgist has been busy in the development of materials that would be satisfactory for high temperature which must of necessity accompany higher pressures.

Safety of High Pressure Units

Naturally, there has been some fear of explosions and the greater destruction that would occur if high pressure units let go. The destruction caused by boilers which explode is due to power present in the form of latent heat in the water in the boiler. High pressure units are safer than low pressure units because:

(a) The latent heat per pound of water becomes less as the pressure increases.

(b) The amount of stored water in the boiler is less than with low pressure units.

(c) The pressure parts are built to withstand much higher pressures. The walls of the drums are much thicker and will withstand sudden changes in pressures that would disrupt thinner walls.

(d) The tubes are thicker and pin holes are the most serious trouble and the operator has been able to continue the operation of the boiler for several hours where with the lower pressures the tubes split and put out the fires or discharge water so rapidly that the feed pumps will not continue to feed water fast enough and the unit must be shut down to prevent damage to other parts of the equipment.

Rhinelander Paper Company Report

Mr. G. H. Suhs, plant engineer for the Rhinelander Paper Company, published in *Power* an article on predicted and actual results for low pressure plants as against a new high pressure plant as installed at their plant at Rhinelander, Wisconsin.

The old boiler room contained eight small boilers. Some generated steam at 150 pounds pressure and some at 200 pounds pressure. The former delivered steam directly to the mill and the 200 pound pressure steam passed through an extraction turbine before being used in process work. The power thus generated was used for the operation of the mill together with as much more power secured from hydro plant which varied from 2,400 kw. in periods of high water to only 400 kw. in periods of low water. (It frequently happens with hydro plants, especially in northern latitudes, that low water occurs in winter at the time when steam demands are at a maximum on account of heating loads. In this way a high pressure steam plant admirably supplements a hydro plant.)

It was necessary to install additional apparatus requiring additional steam and more power. At that time in 1927 equipment for the sizes desired had not been developed for pressures in excess of 400 pounds and for this reason that pressure was adopted and two boilers, economizers and stokers installed together with a 5,000 kw. turbine.

The new boiler room was placed in operation during the first of the year of 1929 and until June 1st operated at 200 pounds pressure and during this period showed a yearly saving amounting to $90,000 on account of the better efficiency of the boiler room equipment and a saving in labor.

During June the pressure was raised to 400 pounds and the turbine was placed in service. The amount of fuel for the month dropped about 700 tons as compared with the previous months indicating a further saving of about $46,000 per year which will be increased as their demands for power become larger. This gives a saving of $90,000 due to more efficient equipment and $45,000 due to the use of the higher pressure or a combined saving of $135,000. Mr. Suhs does not give the investment costs which

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] High pressure specialist, Combustion Engineering Corp., New York, N. Y.

[2] "Availability of Steam Generating Units," by C. F. Hirshfeld (A. S. M. E., New York).

will probably be about $400,000. Roughly 10 per cent of this is due to the higher pressure so that this feature of the installation pays the larger return.

Other Installations

In 1923 the Boston Edison Company installed at the Edgar Station a 3,000 kw. unit for 1,200 pounds pressure. This was superimposed on their 350 pound pressure plant to generate power with the steam being used for the main plant. At that time they were treading unknown paths, equipment must be developed and unforeseen troubles might be encountered. However on a complete plant, estimates indicated a 13½ per cent saving in their fuel bill and the increase in power could be obtained without increasing their condensers or other station equipment. The results obtained with this unit have borne out the predicted results and this company has since put in two additional units of larger capacity for 1,400 pounds pressure at the boiler.

In 1923 the Masonite Corporation installed a 1000 pounds pressure boiler for supplying steam for process wok. This has been supplemented by a second unit.

The Milwaukee Railway and Light Company installed a 1,400 pounds pressure unit in 1926. The results have been satisfactory. Since 1927 when they started using distilled water they have not lost a boiler or water wall tube. They ordered an additional unit in January, 1929, which was placed in operation in October of the same year and have subsequently ordered two more units.

The Kansas City Power and Light Company ordered two boiler units for 1,400 pounds pressure and three for 700 pounds pressure in 1927. They have been in operation for over a year and two more boiler units have been ordered for 700 pounds pressure.

The following plants are being installed for 1,400 pounds pressure.

Place	Operating Company	Probable Date of Operation
Holland, N. J.	Jersey Power & Light Co.	February, 1930
Deepwater, N. J.	American Gas & Electric Co.	February, 1930
So. Amboy, N. J.	Jersey Central Power & Light Co.	May, 1930
San Francisco, Cal.	Pacific Gas & Electric Co.	September, 1930
Detroit, Mich.	Ford Motor Co.	November, 1930
Houston, Texas	Houston Power & Light Co.	November, 1930
San Antonio, Tex.	San Antonio Public Service Co.	November, 1930

There is a plant going in at Lockland, Ohio, for 1,840 pounds for the Philip Carey Company, manufacturers of paper board. This should be in operation about May, 1930.

There are a large number of plants installed for pressures between 450 and 1,400 pounds but I thought you would be interested in this higher pressure and to see the progress that has been made for this higher pressure since the preliminary work started in 1923. The manufacturing company with which the writer is connected, on January 1st of this year, had placed in operation or had under construction sixty-five steam generating units built for a pressure of 460 pounds or greater.

Today the engineer studying high pressures will find 1,400 pounds better standardized than 450 pounds was in 1927 and will find several reputable manufacturers ready to supply reliable apparatus.

The operation of boilers at higher capacities and for higher pressures has shown the necessity of better water conditioning. At higher pressures water should be free from scale sediment and oxygen as a prime requisite for successful operation. With condensing plants, it is not difficult to distil all water used in the boiler as it is only necessary to distil two to three per cent of the water for make-up. Where steam is used for process work and condensate is not returned to the boiler, it is possible to put the boiler on a closed system so that the same water is used continuously and untreated water can be used for process work.

I know you will depend upon your engineers for final recommendations as to the pressure to be adopted in your own particular case but I have endeavored to convey to you the idea that they are not misinformed if they find that a pressure of 600, 900 or even 1,500 pounds is the most suitable for any plant and that they are taking no chances in recommending such pressures, but are following sound engineering principles well tested in actual operation.

Pulp Washing on Vacuum Filters*

By H. A. Morrison[1]

The increasing demand for better quality pulp at a lower price has forced the selection of vacuum filters as washers on all grades of stock, especially for recovery of black liquor from either soda or kraft fiber and for removal of residual bleach and the water soluble products of bleach action from all types of bleached pulp. Other classes of pulp washing, such as removal of sulphate cook liquor and recovery of chemicals, other than soda or chlorine, are also practiced, but will not be discussed in this article.

Vacuum filters owe their success in this field to the following characteristics: (1) filtrates are extremely low in contained suspended solids. (2) operation is semi-automatic resulting in decreased labor costs. (3) less water is required, as compared to washers of the older types. (4) power and maintenance costs are low.

Black Liquor Washing

Many vacuum filter washer installations are in operation on the alkaline pulp, soda and kraft; the majority of newer mills have no other type of washer for recovery of black liquor.

Kraft pulp is harsher than soda and the black liquor as blown from digesters is of greater density. In addition, kraft is most commonly made from resinous woods, such as jack pine, in contrast to non resinous woods, for soda pulp, poplar for example. Accordingly, kraft liquors contain larger proportions of sodium resinates and other dissolved substances and compounds which cause foaming during vacuum washing.

From the above it will be seen that it is more difficult to wash kraft and to maintain high concentration of liquor and best recovery of black liquor with its contained soda.

At present, single filter washing of soda pulp is practiced, while two filters in series are used on kraft, with the filtrate from the second unit, or rewasher, going to waste. Soda losses in washing are less than in wash pans on soda pulp or than in diffusers on kraft. In a situation where power costs are under $25 per horse power year, it is theoretically sound to operate the kraft rewasher with complete vacuum system and counter current reuse of the weak liquor filtrate as a wash on the primary filter and for thinning the feed to the secondary washer, but no plant of this type is as yet in operation.

The table given below, gives performance data on vacuum drum filters as soda and kraft pulp washers.

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] Associate member TAPPI; sales engineer, Oliver United Filters, Inc., New York, N. Y.

TABLE 1
BLACK LIQUOR WASHING

Variety of pulp washed	Soda	Kraft	Rewasher on Sulphite
Consistency as washed, per cent bone dry...	1.35	1.00	1.5
Black liquor, entering, degrees Be. at 60 deg. F.	11.5	15	H_2SO_3 0.50 per cent
Fiber in filtrate, pounds per 1,000 gals.....	0.25	0.15	0.2
Black liquor filtrate to evaporators, Be. at 60 deg. F.	10	12	H_2SO_3 to waste 0.04 per cent
Black liquor temperature drop, deg. F.....	15	20	
Pulp consistency out, per cent bone dry....	20	18	7
Soda loss, lbs. Na_2CO_3 per air dry ton.....	10	60	
Wash water temperature, deg. F.....	145	150	60
Wash water used, pounds per pound air dry pulp	6.5	7.5	3.3
Filter area, sq. ft. for 50 tons per 24 hrs....	150	175	175
Power per air dry ton	2	2.5	0.25

As shown in Table No. 1, soda pulp readily releases the liquor, and single stage washing is sufficient. Frequently, vacuum filter deckers follow the soda pulp screens. A limited washing on the vacuum deckers, if used, will insure very complete removal of soda, thus helping subsequent operations such as bleaching and paper making.

Liquor from a vacuum drum washer contains but the slightest trace of fiber and thus avoids the accumulation of fiber in the evaporators. This represents an important saving of steam.

Careful regulation of stock density ahead of the washer is essential, since wash water must be closely proportioned to sheet thickness and speed of travel.

Excellent density control is obtained by use of a large cylindrical blow tank, with conical lower section, the latter equipped with a paddle agitator. It has been found best to use the plunger rather than the centrifugal type pump for delivering stock from blow tank to washer.

Bleach Washing

Vacuum filters are extensively used for removal of residual bleach and the soluble products of bleach action for all grades of pulp and in connection with either high or low density bleaching systems. Their use in this connection depends primarily upon high saving of stock, as compared to other varieties of washers, but is characterized, also, by economy of wash water, very complete removal of all water soluble impurities, and high capacity per unit of filter area.

In most mills, the bleach washer filters are operated by barometric leg, neither vacuum nor filtrate pump being required, and power input is nominal. Table 2 gives performance data on bleach washers:

TABLE 2
BLEACH WASHING

Variety of pulp washed	Soda	Sulphite	Sulphite Rewasher
Consistency as washed, per cent bone dry....	0.50	0.90	1.2
Consistency leaving washer, per cent bone dry	8.5	11.0	10.0
Chlorides as $CaCl_2$, per cent per unit bone dry pulp—(in)	2.60	9.50	0.11
Chlorides as $CaCl_2$, per cent per unit bone dry pulp—(out)	0.12	0.09	0.049
Wash water used per bone dry ton, gals....	1,200	4,400	4,400
Dilution water used per bone dry ton, gals...	18,000	14,600	6,280
Water to waste per bone dry ton, gals.....	19,200	30,600	26,000
Fiber lost in bone dry pounds per bone dry ton washed	7.0	6.0	6.5
Filter area sq. ft. for 100 tons per 24 hours..	350	350	300
Power per air dry ton	0.5	0.4	0.35

In a single stage bleacher of simple type, such as a beater or bellmer, the entire treatment with chlorine is performed as a single operation. The brushing and beating action set up in the beater insures even distribution of bleach liquor, and the fibers, as discharged from this type bleacher, readily give up their water soluble impurities when given a single wash on a vacuum filter. There are several bond and book mills where simple equipment produces highly satisfactory results and where filters save more than 50 pounds of fiber per ton handled, as compared to multi-cylinder washers of the non-sheet forming type. Sulphite pulp leaving the filter washer may be said to average no more than 0.1 per cent total chlorides (as $CaCl_2$).

In two stage bleaching systems, more especially where the pulp is to be used for special purposes, as for rayon production or for conversion to glassine, extra precautions are in order in each step of the thickening, bleaching and washing process.

Vacuum filters are generally used at three points in a two stage bleach plant, (1) thickener (2) washer thickener and (3) final bleach washer. The first step, thickening, is outside the scope of this article. The second step, washing and thickening ahead of the final bleaching equipment is highly important.

Filtering

After preliminary bleaching, the stock should be thinned out to 1 per cent or lower consistency, and thoroughly agitated before being delivered to the filter. Thinning and agitation give the scrubbing and soaking action essental to enable the washer thickener to remove a high percentage of all water soluble impurities and at the same time, thicken the stock to a maximum of 25 per cent a. d. stock. This is believed to be sufficiently dry to suit all requirements of the final bleaching unit. Good washing before final bleach treatment appears to deserve more attention than it has received.

When last stage bleaching is completed, the filter bleach washer is ordinarily not required to delivery the washed stock at more than stock chest density, but must remove practically all traces of solubles. Here again, thinning to 1 per cent or less and violent agitation should precede washing.

Second Stage

Comparatively little bleach is used in the second stage, commonly about 30 per cent of the calculated total, and this facilitates washing. The reason is that the soaking, dilution, and agitation have lowered the concentration of soluble impurities within the canals and walls of the fibers.

Certain exponents of the more crude types of washers maintain that the bleached stock contains a considerable weight of semi-fibrous and partially colloidal solids which must be wasted, their removal is said to produce stock of improved quality. The loss in yield of all such material, plus the short fiber lost incidentally, amounts to more than 2.5 per cent.

Vacuum filter bleach washers lose less than 0.3 per cent of the pulp handled. Pulp washed on filters, where filtrate averages less than 0.3 pounds of fiber per 1000 gallons, is used in production of the highest grade bond papers. By comparison with other type washers more han 2 per cent has been added to yield without any sacrifice of quality.

It is the author's opinion that filters remove and lose the objectionable semi-fibrous materials, but because of rapid sheet formation, as influenced by vacuum, retain the short fiber in the sheet. Fiber so retained, does not lower the grade of the product.

Vacuum Equipment

The arrangement of the equipment is extremely simple and it operates automatically. Vacuum is usually induced by the outflow of filtrate thru a vertical barometric leg, with a minimum fall of 17 feet. Rotation of the filtering element together with pumping of both water and stock requires about one half horse power per ton of pulp washed. Monel metal covers such as are frequently used average one year's life. Maintenance and general repairs total about five cents per ton. Total investment in equipment for bleach washing is approximately ten dollars per ton of daily production.

In a great many mills, producing bleached white paper only, paper machine white water is introduced at the bleach washer head box and there used for thinning the bleached pulp to consistencies of 1 per cent or less. The filter, in such a case, functions as a combination bleach washer and saveall. The mat of long fiber stock serves to retain an extremely high proportion of the fiber white water solids and the requirement of clean fresh water is much reduced by the introduction of the white water.

Several mills use vacuum filters as bleach washer savealls on deinked old book stock. Athough the white water from the book paper machines carries more than ten pounds clay filler per thousand gallons filtrate, the waste from the washer averages only one half pound total suspended solids per thousand gallons.

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Lawyer and Accountant in Tax Practice*

By J. Harry Covington

I think I shall risk telling a very old story, but one that seems to me peculiarly applicable at this time. Bishop Whipple, who was the Protestant Episcopal Bishop of Virginia, had a great sense of humor. On one occasion there was sent down into his diocese a young minister to make an address at a Richmond church. He had come from the classic regions of New England where, while an Episcopalian, he had no doubt absorbed some of the Congregationalist idea of long sermons, and he asked the bishop how long he was expected to preach. The bishop, being a very polite, courtly old Virginian, said, "My dear sir, that is entirely with yourself in the state of Virginia, but my observation after a long period of service is, that no souls are saved after fifteen minutes."

It seems to me, after listening to Mr. Trobridge's address, that very little can be said as to the lawyer's relation to the accountant in tax practice. He has after all stated it rather clearly and succinctly. I should like to make a primary observation, however, on behalf of the lawyer, and that is that no thoroughly experienced lawyer ever undertakes to enter the labyrinth of a complicated tax case without at the inception of it calling into association a competent certified public accountant, and no careful lawyer will undertake to prepare the tax returns of clients engaged in extensive business. The tax return itself always embodies statements to be deduced from a critical examination of the books of the corporation or of the individual. While some lawyers, in their vanity, may imagine themselves capable of performing that sort of service, the simple truth is that they are not. That sort of work is most emphatically an accountant's matter.

A New and Complicated Field

The truth is that with the coming of tax practice in the United States—and when I refer to tax practice I refer primarily to federal tax practice—there has been developed a new and a complicated field occupied by both the accountant and the lawyer. There are many tax cases in which, from their very inception—that is to say, from the time when the bureau of internal revenue first sends its well known letter to the taxpayer, notifying him of an additional tax—it quite obviously appears that the questions involved are accounting problems. No lawyer can safely undertake that sort of a case without calling in the accountant. But it is quite likely that while the problems involved are primarily accounting problems, there are also problems which involve a very exact construction of the more or less complicated sections of our extended revenue laws, raising questions with which no accountant can hope to deal intelligently. No accountant, with any such case presented to him, is rendering proper service to his client if he does not insist upon the employment of a competent lawyer to advise him and to participate with him in the presentation of that sort of a case before the bureau of internal revenue. In other words, he should have the lawyer with him from the start.

The fact is that the professions of law and accountancy have become complementary the one to the other in tax practice. All the lawyers with whom I talk who have an appreciation of the steady advance in the science of accounting have come to realize that accountancy today is a learned profession, just as the law is a learned profession. They have no hesitancy in calling in the accountant to deal with the problems of the taxpayer because they know that there are certain complicated aspects of the usual tax case which are accounting in character and with which they as lawyers are incompetent to deal, just as the accountant should know that there are also problems that are legal in character and with which he is incompetent to deal.

Stand Upon Common Ground

After all is said and done, therefore, the lawyer and the accountant stand very largely upon a common ground in the presentation of the cases of taxpayers, either before the bureau of internal revenue or before the board of tax appeals, as the case may be. Of course, after a case gets beyond either of those two jurisdictions, it goes without saying that the accountant simply can not any longer conduct the case but must leave its presentation to a competent lawyer.

My observation has been that, particularly in the more remote places of the United States where the smaller accounting firms or individuals practicing accountancy are situated, the one difficulty which the accountants perhaps have not appreciated up to this time is, that the problems confronting them are often legal problems and that they ought to have the association of lawyers at an early stage of many cases. This is not so with the larger concerns engaged in practicing accountancy. At the present time the facts seem to be, that in the metropolitan areas where the larger tax problems arise accountants have been very properly ready to realize the inherent difficulties of dealing with certain cases without the assistance of lawyers. When the accountants in the remote sections undertake to present their cases entirely without the cooperation of lawyers, they are often unable to make possible intelligent legal service to their clients later on when their cases come up before the courts. It isn't fair to a taxpayer to go along with a case involving primarily legal problems without calling in the service of a lawyer until the time comes when there conceivably has been an adverse decision in the bureau of internal revenue and an affirmance of

*Discussion following an address by Charles R. Trobridge, at the annual meeting of the American Institute of Accountants, Washington, D. C., Journal of Accountancy.

that adverse decision by the board of tax appeals, and it is determined to go to the courts.

Must Assure a Proper Record

In considering the practice of the board of tax appeals it must be understood that a review of an adverse decision of that body means the review of questions of law which have been there determined upon the transmittal of the record either to a circuit court of appeals or to the court of appeals of the District of Columbia. This record must in appropriate fashion concretely present the questions of law so that the appellate court may see that there are in fact such questions improperly decided. In all such cases the accountant's client ought to have the services of a lawyer in the presentation of the case before the board of tax appeals as well as in the later proceedings in the courts. Only in that way can a proper record be assured.

Moreover, as you of the Institute know as well as I, there is an alternative method of treating a tax case. The taxpayer is not compelled to go from the bureau of internal revenue to the board of tax appeals at all. There are frequently considerations of a legal nature which determine the question whether it is appropriate to go through the board of tax appeals with the right of an eventual review on questions of law by a circuit court of appeals or to pay the proposed tax and bring suit for its recovery in a court of the United States. The accountant must realize that there are really legal problems involved in deciding which of these courses his client should pursue, and he should speedily call in the services of a lawyer.

There are various problems, which I have sketched in rather brief form, indicating that the accountant, when he is undertaking to deal with his client, must advise him that there are situations in which the services of a lawyer in association with the accountant are required in the proper and effective presentation of the tax case. These problems are in fact numerous.

An Illustration

Take for illustration the case of a taxpayer who has received his sixty-day letter. He first has to determine whether it is the wiser thing to go to the board of tax appeals or to a court. You probably know as well as I do that there are certain classes of cases in which the view of the board of tax appeals, while it is an administrative agency entirely independent, nevertheless is the viewpoint of the treasury. Some of the members of that board have had prior treasury experience and in certain classes of cases, when they are heard by the board, it is the fact that the viewpoint of that body is likely to be that of the treasury itself. In dealing with a case which has been adversely decided in the bureau one has to consider whether or not the questions involved are those questions on which the board is more likely to take a treasury viewpoint than the courts. The courts are entirely removed from the treasury, and by and large they are composed of extremely competent lawyers. In our industrial centers they are very likely to be composed of lawyers who have in their days of practice been familiar with large corporate enterprises. They are able to approach many questions with that proper breadth of view which goes with thorough understanding.

So at the threshold of many cases in which a review is necessary there is the problem to determine: shall the client go to the board of tax appeals or shall he be advised, if he or it is financially able to pay the tax, to pay and then institute a suit for a refund directly in the district court of the United States? No Accountant can competently determine that question because it involves the weighing of a variety of delicate problems. It involves the examination of decisions of the district courts of the United States on questions as nearly kindred to the question involved as are available, and balancing those decisions with the decisions of the board of tax appeals. There, obviously, the counsel of the lawyer is needed.

Another Question To Be Determined

There is another question that is always to be determined—whether or not the taxpayer needs a speedy disposition of his case. In the clogged condition of the board of tax appeals, he is quite likely to get a speedier decision of his case in a district court of the United States than before the board of tax appeals, and in consequence there may be considerations which should be presented to the client with a picture of what may happen in the courts and a picture of what may happen in the board of tax appeals, so as to determine correctly whether the cause ought to be taken to the one tribunal or the other.

There is yet another question often involved in the determination of whether a case ought to go to the board of tax appeals or to a district court of the United States, which no accountant can competently determine. This is the effect of the judicial procedure in the jurisdiction where the taxpayer must bring his suit. The judicial code of the United States provides that the district courts of the United States shall conform as nearly as possible to the practice, pleadings and procedure in force in the several states in which the federal courts are situated. It is also provided that the district courts shall likewise regard as law the decisions of the state courts in trials at common law unless the federal constitution or a statue of the United States requires otherwise. To illustrate, a federal court in the state of New York adheres to the practice existing in the state of New York, a peculiar highly complicated and meticulous code procedure; the district court of the United States in the state of California adheres to the peculiar code procedure obtaining in the state of California; the district court of the United States in the state of Maryland adheres to the common-law procedure in Maryland. The questions of how evidence may be adduced in one or another jurisdiction, what avenues of proof are open and what are the rules of construction of contracts and the like if one is thinking of going to court rather than to the board of tax appeals, are consequently questions which have a serious bearing upon what course to pursue to establish the case in the courts. Those questions are obviously only capable of determination by the lawyer.

Where Suits Should Be Instituted

If it is decided to go directly to court, there is another question to determine—whether or not the suit should be instituted in the court of claims of the United States or in the district court of the United States. The practice in the court of claims is decidedly at variance with the practice in the district courts of the United States. The court of claims is a court taking its testimony through commissioners who go to various parts of the United States, if the necessity exists. Moreover, the court of claims sits in the city of Washington. It gets many more tax cases than any single district court of the United States, save possibly the district court in the southern district of New York, and gradually has acquired a more than ordinary degree of understanding of tax matters. So one has to determine whether his cause ought to be instituted in a district court of the United States or in the court of claims, having regard for the locality of the district court which would hear the case.

To illustrate what I have just said, I should think that there would be very little difference in selecting a United States district court in the southern district of New York or the court of claims of the United States for the purpose of instituting a suit for a refund in the event that its was determined to go directly to the court, because the judges sitting in the southern district of New York have a constant flow of tax cases for determination. They have become quite expert in such matters and have, as their decisions show, acquired, quite

a broad and comprehensive view of our tax statutes. On the other hand, if the case is one which, if instituted in a district court of the United States, must be instituted in some remote section where tax cases are a few in number and where it is quite conceivable that a narrow view might exist, it would perhaps be more desirable, even though the litigant is at a great distance from the city of Washington, to institute the suit in the court of claims of the United States.

Review of the Court of Claims

Moreover, there is another question which may have to be determined; that is, whether or not the case is one in which the prior decisions of the court of claims (if it is decided to sue in the court of claims) are apparently favorable, for one always has to consider the situation relating to review of the decision of the court of claims. While after suing in a district court of the United States the plaintiff has under the statute the right of appeal to the circuit court of appeals in the circuit in which the district court is situated, if suit is instituted in the court of claims there is only a restricted form of review. If the decision in the court of claims is adverse the only way in which that adverse decision may be reviewed is by filing a petition for a writ of certiorari, as it is called, in the supreme court of the United States and by making a showing that the decision is so completely at variance with the uniform construction of the tax statues, and moreover that it so largely involves a question of great public importance to the taxpayers all over the United States, that it is important for the supreme court to review it. While it may be quite realized by persons who are not lawyers, one of the things that we learn as lawyers is that the failure of the supreme court to grant a writ of certiorari is by no means an indication that they approve the decision of the court below. The supreme court can decide only so many cases in the course of a year without unduly crowding its calendar and thus impeding the administration of justice. There are certain classes of cases that must be reviewed by the supreme court, and, as to the remainder, from among the great volume of petitions for the which great injustice has manifestly been done, cases which are obviously of great public importance and cases in which there are squarely conflicting decisions in the circuit courts of appeals in different circuits. It does not by any means follow that a mistaken decision of the court of claims in any ordinary case of no importance except to a particular taxpayer will be reviewed by the supreme court.

Therefore, in going into the court of claims to institute suit one does so with the knowledge that unless the question involved is of general importance, or results in a real conflict of decisions, if decided wrongly, the decision in the court of claims is likely to be a final decision.

Must Employ Counsel in These Circumstances

These matters which I have discussed in rambling fashion are some of the considerations that always come up in determining when and how one ought to go to the courts rather than to the board of tax appeals. Obviously, accountants need the services of lawyers in matters of that sort, and they are not rendering the best service to their clients if they do not employ counsel in those circumstances.

In addition to the procedural questions I have referred to there are numbers of questions that come up in tax practice so completely legal in character that no accountant can undertake properly to deal with them. In the matter of inheritance taxes the question of gifts made in contemplation of death, one of the most interesting that I know of, is in no sense an accounting problem. Whether there has or has not been a corporate reorganization, and in consequence the creation of taxable income, is often a close question of law. Many cases arising under Section 220, the accumulated-income section of the revenue act, involve not only accounting problems but problems of law. These are only random illustrations of the matters primarily legal in character which may develop in a tax case.

Welcome Advance of Accountancy

In adhering measurably to the Bishop Whipple injunction, let me say to you, in conclusion, this: All the lawyers with whom I come in contact have welcomed the advance of the accountancy profession. With the development of the field of tax practice there has come to the lawyer a realization of the fact that his clients are having problems constantly presented to them for the ultimate solution of which no lawyer is competent. The lawyers are realizing that they themselves always have at hand the services of the very best accountants who can be obtained. On the other hand, the more experienced accountants with whom I come in contact are realizing that the problems involved in a great many of their tax cases are problems that are legal in character and that they are not rendering to their clients the best service of which they are capable if they do not in the early stages of the case have competent counsel called into consultation.

The two professions today which, as the result of our complicated industrial organization, are being drawn closer and closer together are the professions of law and accountancy, and it is a distinct pleasure to me individually to recognize the great advance that has been made by the accountants of the country in the appreciation that they are in fact professional men. They are actuated by ethical considerations, and they are adhering more and more to the same ethical notions of practice with respect to their clients and the conduct of their causes to which the lawyers are expected to adhere. The public accountants have in truth today arrived at that position which has been their aim for a long time, that of a recognized profession engaged in practising an applied science which is as abstruse as the law and requires as competent training. In the future it is my hope to see these two professions go along hand in hand in the service that they render to the great businesses of the country, each of them understanding that it has a field which it peculiarly occupies, each of them recognizing that they are complementary one to the other, and each of them knowing that in a great mass of cases, affecting the very material interests of their clients, neither one of them can do without the other.

News Print Production for January

Production of news print in Canada during January, 1930, amounted to 206,305 tons and shipments to 202,008 tons, according to the News Print Service Bureau. Production in the United States was 124,851 tons and shipments 124,262 tons, making a total United States and Canadian news print production of 331,156 tons and shipments of 326,270 tons. During January, 23,263 tons of news print were made in Newfoundland and 1,728 tons in Mexico, so that the total North American production for the month amounted to 365,147 tons.

The Canadian mills produced 8,138 tons less in January, 1930, than in January, 1929, which was a decrease of 4 per cent. The output in the United States was 1,029 tons or 1 per cent more than in January, 1929, in Newfoundland 2,615 tons or 13 per cent more, and in Mexico 154 tons less, making a total decrease of 4,648 tons or 1 per cent from January, 1929.

During January the Canadian mills operated at 71.4 per cent of rated capacity, the United States mills at 85.3 per cent and Newfoundland mills at 97.1 per cent. Stocks of news print paper at Canadian mills totalled 29,154 tons at the end of January and at United States mills 18,778 tons, making a combined total of 47,932 tons which was equivalent to 2.9 days' average production.

COST SECTION

The President and the Cost Accountant*

By H. D. Bennett[1]

As I looked over the subject which was wished onto me I realized for the first time that the business of the accountant, is more or less a field of detailing, formalized, and monotonous.

Then as I looked at my point of view, and considered that I have always had a genius for getting into business that needs more or less of a re-vamping process, I began to see what a difficult question this would be for me, who knew nothing whatsoever about accounting.

Taken from one point of view, the reports of the Accounting Department to the head of a business are similar to the report of the army men to the General. If the report is not accurate and visualizing the conditions, not only of his own men, but also of the enemy as well, the General does not know just what move to make.

Should Mirror Actual Conditions

The report of the Accounting Department to the head of a business should certainly mirror the actual conditions existing at the time the report is given or the report is no good. By mirroring, or visualizing, I mean the report must be comprehensible. If the President of the business has come up from the accounting field, and is a Certified Public Accountant (on which point I will touch a little later) then the report that most of you Accountants would give him would be comprehensible and clear, but if the President has come up from the sales end or the manufacturing end of the business, then that report, nine times out of ten, means absolutely nothing to him. You must make your reports in accordance with the President's capacity to understand them.

I have attempted studying accounting through correspondence courses and reading. The main trouble with such a procedure is that any accounting book, to be complete, must deal with every phase of accounting that there is, and therefore in reading the entire book, only 10 or 15 pages out of perhaps 350 really apply directly to the case or problem which you have at hand. From this I would venture the conclusion that you must not only make the report which you give to accord with the President's ability to comprehend the report, but that the report must be in accordance with the business and the problems of that business, and cannot follow any defined straight and narrow system, and give a satisfactory report.

I never did put a whole lot of faith in systems. Your organization does not depend on its systems. It depends on its men. In the field of accounting, I find that the men take a great deal of pride in their accounting work, and hold a certain aloofness to other branches of the business, which probably makes them good accountants, but I do believe that the general accounting field is not human enough in their figures.

I was talking to one of the men in the shop a short time ago, and he spent 45 minutes of both his time and mine, telling me of the difficulty in installing and perfecting a certain intricate appliance, and it was not until after 45 minutes of conversation that the man actually came to the point of what the appliance would do, how much it cost, how much time it would save, and how long it would take to pay for itself. After all, as a head of a business, that is what I wanted to know. It is what any head of a business wants to know. The accounting report might well be considered in the same light. What does it do? What does it show? What are we, as a business, doing?

"What Are We Doing?"

All of you men take a pride in your reports, you pride yourself on their form, and they are clear to you in that they are completely detailed, but what the head of a business, or the man who receives those reports, wants to know is "What are we doing?" If the report does not really portray the actual conditions of the business as they actually are at that time, then it matters not how much of a masterpiece the report is, or how difficult it was to complete, the report is of no value.

In this respect, I will go back to the point on which I touched a few minutes ago. In looking over the field of Presidents, I can think of but one, off-hand, who has come up to the presidency through the field of accounting. Mr. Erskine, of the Studebaker Corporation, came up as a Certified Public Accountant. Now your report to him might be comprehensible enough, but that same report to me might mean absolutely nothing.

I don't like to be crabbing up here in front of you, but I believe the reason for the above is that too many of your Accountants lose sight of the fact that you must humanize your figures. It isn't a question of whether your report balances at the bottom of the sheet; it is a question of whether that report visualizes the conditions of the company—of whether it shows in figures the progress of each department head, and the field men.

Stick to Fundamentals

In connection with that particular point, I believe that you accountants should stick to the fundamentals themselves. I never did like financial statements anyway, but it is bad enough to get a report that only shows the fundamentals, not to mention the terrible job of going through page after page of detailed figures to find those few important figures which you want to know right away.

My first experience in the interpretation of statements came three and one-half years ago from a report of the month's work in 32 pages of bound statistics. Well, I started looking over the report, and found that it showed so much inventory for this particular month, and so I rather wanted to know what the inventory was for the corresponding month of last year. In attempting to find that out, I had to leaf back through 12 folders and get out the report for the same month of last year, and then leaf through that until I found the statement of the inventory for that month.

By the time I got through perusing through all the various books, I had the floor of my study covered, and was crawling around on my hands and knees, and turning page after page. After two weeks of such procedure I had to quit, because I was getting a bad case of house-maid's knee. Then we determined that the problem must be to prepare a simple statement that would not leave out anything essential or put in anything superfluous.

The solution of this problem was not easy. In the first place, we were making some changes which would comprise an entirely different method of figuring. And again it was necessary to get out that report in a manner that would actually be true to facts all the time.

That point of accuracy must not be considered lightly. If your report is in balance, if you show so much of the inventory as being turned, and show so much of the depreciation being absorbed by plant operation, and yet your inventory is really heavier than is actually shown, the man at the head of the business is simply lost—helpless in fact, when he finds that he cannot depend on the figures you have given him.

The report must actually and accurately record the progress or retrogress of the business during the period which the report is to cover or the report is valueless.

Promptness is another vital problem. I know of one particular instance where the reports for the month did not reach the heads

* N. A. C. A. Bulletin.
[1] President, Toledo Scale Co., Toledo, Ohio.

of the business until the 25th or 26th of the following month. It is very discouraging for a man to be compelled to wait until the end of the next month to know just what you did during the past month. In this particular instance, supposing the head of the business had made a certain change during August. He would want to try that method for one month, and see if the results would accomplish anything. Now on the 26th of September, he gets the report for the progress or retrogress of August. If it is progress, September will take care of itself on the same basis, but if it is retrogress what about nearly all of September now going through the same method? That same firm now gets the reports from the factory on the 5th of the month, and all field reports are in and condensed by the 10th of the month. Or in other words, a saving of 20 days time in factory reports, and a saving of 15 days in field reports! Some saving!

If I were an accountant in a firm, I would get to know the need of promptness in getting the reports out, and to know the man to whom those reports are going to be given. I wonder how many of you men spend time studying the man who is to receive that report which you make out? I believe that it is a little different slant of the business than you have had.

Then in getting to the report itself. I always state the problem first. "What is the report going to do?" You must keep that question uppermost in your mind, and never lose sight of it. Do not let the method of solution side-track the main issue at hand.

Sometimes we think it would be a good idea to go and see some other fellow whom we think has had a similar problem, and see just how he has solved it, but we must not forget that in various industries, the problem is bound to be just a little bit different, and perhaps that little difference would make the method of solution which he took entirely worthless to us. Each problem is a little bit different than the previous one, and we must go about the solution in a manner which deals with the problem itself, and not with any specified set system of solution.

So first know what the problem is,—just what it is to do, and then work it out in the simplest possible fashion and present the solution the simplest and most fundamental way.

A Somewhat Different Slant

Then, there is another slant which is somewhat different than the usual manner of determining a solution. That is the philosophy of the question.

Philosophy is one of my vices. I was reading Francis Bacon, who is called the Father of Modern Philosophy, and found that Bacon did something in that which no other man had ever done. He disproved the idea of the usual line of thought which had been: If this is this, and that is that, then this must be that. He conceived the original idea of finding out if things were so, and therefore derived what we call the Hypothesis method of solution.

In the solution of our problem of getting a report which would be simple, and yet complete, we used that Hypothesis method. We first found out just what kind of a report we wanted to have. In other words, we made an ideal statement on the basis of the best records of other people. If a certain company turned their inventory nine times each year, we used that ratio and from that basis we found how much inventory we should turn each month. Then if some other firm had a quick-assets figure of a certain percentage of all of their assets, we set that ratio to our total assets, and determined that so much of them should be converted into quick assets.

In other words, we found out what we were to do, and then went about the solution of the problem.

And I am happy to state that in eighteen months of labor and effort, we converted our statement into what we figured to be an ideal statement, and the statement now shows the business doing just that ideal figure which we first aimed at.

Supposing you, at the head of a business, had a foreign office and factory, as many of you have. Now in getting that report, it is your duty to know what you want and the accountant's duty in that factory or office, to know just how to present to you just what you want.

Make the Report Fit the Man

In other words, my counsel would be to know your man to whom the report is to be given, and to attempt to give it to him in the fashion in which he wants to receive it, and in the manner in which he will understand, and can use it; think less of the technique and more of what the report is to do.

The final analysis is that no system will work under all circumstances, and that the problem is more of a problem of men, than a problem of system.

And last but not least, do not think that the head of your business is not glad to know and talk to you regarding your problems, for I venture to say that the average head of a business is the most accessible man to his employees that there is in the business.

Cheap Electric Power Vital

The Legislature in its consideration of the Republican water power bill was warned this week that cheap electrical power is vital to the retention and growth of industry in the state. Floyd L. Carlisle, president of the St. Regis Paper Company, and head of the Niagara-Hudson Power Corporation, declared at the hearing that if the power cannot be developed cheaply it is hard to attract industry.

"In these days of unprecedented industrial competition," he said, "there is a constant strain toward lower cost of production and distribution. It is natural under this competition that industry should migrate from one state to another seeking an environment they think best. The state has outstanding resources and if they are fully availed of and restrictions removed there is no question that it will forge ahead.

"There is not on the face of the globe such real opportunity for the good of the people that live in a section or region as there is in the state of New York if this cheap power can be put to work. For every dollar that it costs to develop the horsepower to use it in industry, a minimum of $5 and a maximum of $25 would be added to use in plants and industries.

"The great gain that the state is going to have by development of these waterpowers is going to be the great industrial life that follows, the ability to tax the industries, the capital that if attracted to use the energy and the great increase in employment of people who will work in these industries. Industries that run 24 hours a day can go to Norway and Sweden now and buy great quantities of power at low rates and they do."

County Forest Projects

Jefferson County will plant 216,500 trees this year, according to an order filed with the state nurseries which has been approved by the conservation commission. The order comprises 203,000 Norway spruce, 8,000 red pine, 5,000 balsam and 500 white pine. Planting will be started early in the spring as soon as weather permits. The total is nearly as many as was planted during the past year.

The largest of the county's reforestation tracts is located in the town of Worth where a tract of 200 acres is held. Another plot is located in the town of Rodman where considerable planting took place recently. The plantings will be made under the direction of a trained forester.

As an indication of the growth of county forest projects under the state aid plan over 607,500 trees have been ordered for spring planting by Lewis County. Otsego County heads the list with an order for 900,000. Four counties in the state have already ordered over 2,000,000 trees while many communities have also submitted orders. The large increase in orders compared with last year indicates that more than 30,000,000 trees will be planted.

COST SECTION

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING FEBRUARY 22, 1930

SUMMARY

Cigarette paper .....776 cs.
Wall paper .....253 bls., 77 cs.
Paper hangings .....54 pkgs., 32 bls., 17 cs.
News print .....5256 rolls
Printing paper .....63 bls., 123 cs.
Packing paper .....181 cs.
Wrapping paper .....21 bls., 143 cs.
Filter paper .....13 cs.
Drawing paper .....76 cs.
Writing paper .....2 cs.
Stencil paper .....3 cs.
Baryta coated paper .....76 crates
Metal coated paper .....8 cs.
Surface coated paper .....98 cs.
Coated paper .....5 cs.
Gold coated paper .....4 cs.
Tissue paper .....64 cs.
Colored paper .....48 cs.
Decalcomania paper .....48 cs.
Transparent greaseproof paper .....18 cs.
Sulphate paper .....200 rolls
Envelopes .....59 cs.
Cover paper .....8 cs.
Caoutchouc paper .....8 cs.
Gummed paper .....3 cs.
Parchment paper .....1 cs.
Card board .....200 cs.
Miscellaneous paper .. 272 rolls, 364 bls., 256 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Waukegan, Havre, 574 cs.
Liggett & Myers Tobacco Co., Lancastria, Liverpool, 50 cs.
P. J. Schweitzer, Pr. Garfield, Marseilles, 152 cs.

WALL PAPER

F. J. Emmerich, Pr. Harding, Bremen, 64 bls.
Globe Shipping Co., Pr. Harding, Bremen, 1 cs.
Schmidt & Pritchard, Stuttgart, Bremen, 1 ble.
F. A. Binder, Stuttgart, Bremen, 62 bls., 13 cs.
Happel & McAvoy, Westphalia, Hamburg, 1 ble.
F. J. Emmerich, Ascania, London, 2 bls.
Guaranty Trust Co., Cleveland, Hamburg, 42 cs.
D. C. Andrews & Co., Cleveland, Hamburg, 2 bls.
Kensington Wallpaper Co., Cleveland, Hamburg, 7 bls.
Globe Shipping Co., Cleveland, Hamburg, 51 bls., 3 cs.
Ungerer & Co., Cleveland, Hamburg, 4 bls.
F. J. Emmerich, Cleveland, Hamburg, 48 bls.
C. Grimmer & Son, Cleveland, Hamburg, 2 bls.
J. E. Bernard & Co., Cleveland, Hamburg, 2 bls.
Phoenix Shipping Co., Cleveland, Hamburg, 1 cs.
J. E. Bernard & Co., Majestic, Southampton, 7 bls., 1 cs.
R. F. Downing & Co., Majestic, Southampton, 16 cs.

PAPER HANGINGS

J. E. Bernard & Co., Rochambeau, Havre, 2 cs.
Titan Shipping Co., Rochambeau, Havre, 12 cs.
W. H. S. Lloyd & Co., American Shipper, London, 54 pkgs.
Whiting & Patterson Co., Inc., Majestic, Southampton, 9 bls., 2 cs.
A. C. Dodman, Jr., Inc., Albertic, Liverpool, 23 bls.
A. C. Dodman, Jr., Inc., Paris, Havre, 1 cs.

NEWS PRINT

H. Reeve Angel & Co., Inc., Kolsnaren, Kotka, 73 rolls.
Lunham & Reeve, Kolsnaren, Kotka, 354 rolls.
———, Stavangerfjord, Oslo, 84 rolls.
Parsons & Whittemore, Inc., Stuttgart, Bremen, 696 rolls.
Stora Kopperberg Corp., Drottningholm, Gothenburg, 129 rolls.
Perkins, Goodwin & Co., Cleveland, Hamburg, 211 rolls.
Parsons & Whittemore, Inc., Cleveland, Hamburg, 231 rolls.
W. H. Bell, Markland, Liverpool, N. S., 3478 rolls.

PRINTING PAPER

P. C. Zuhlke, Westernland, Antwerp, 11 cs.
P. Puttman, Westernland, Antwerp, 3 cs.
———, Cleveland, Hamburg, 32 cs.
International F'd'g. Co., E. Francqui, Antwerp, 33 cs.
Japan Paper Co., Pr. Garfield, Genoa, 32 cs.
T. N. Fairbanks, Augustus, Genoa, 12 cs.
J. L. Bernitz, Singapore Maru, Hamburg, 63 bls.

PACKING PAPER

American Express Co., Westphalia, Hamburg, 86 cs.
American Express Co., Cleveland, Hamburg, 95 cs.

WRAPPING PAPER

C. K. MacAlpine & Co., Drottningholm, Gothenburg, 21 bls.
E. Dietzgen & Co., Westernland, Antwerp, 2 cs.
Sylvania Industrial Corp., Westernland, Antwerp, 111 cs.
Steffens Jones Co., Westernland, Antwerp, 4 cs.
Standard Products Corp., Westernland, Antwerp, 22 cs.
C. Steiner, Cleveland, Hamburg, 4 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Ascania, London, 13 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Ascania, London, 2 cs.
P. C. Zuhlke, Westernland, Antwerp, 2 cs.
D. C. Andrews & Co., Westernland, Antwerp, 38 cs.
P. Puttman, Westernland, Antwerp, 6 cs.
W. C. Sullivan & Co., Cleveland, Hamburg, 28 cs.

WRITING PAPER

Japan Paper Co., Paris, Havre, 1 cs.
Gershel & Neumann & Co., Paris, Havre, 1 cs.

STENCIL PAPER

Phoenix Shipping Co., Cleveland, Hamburg, 3 cs.

BARYTA COATED PAPER

J. H. Schroeder Banking Corp., Stuttgart, Bremen, 76 crates.

METAL COATED PAPER

Hensel, Bruckman & Lorbacher, Stuttgart, Bremen, 8 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., Westphalia, Hamburg, 3 cs.
P. C. Zuhlke, Westernland, Antwerp, 53 cs.
Gevaert Co. of America, Westernland, Antwerp, 42 cs.

COATED PAPER

W. A. Foster & Co., Majestic, Southampton, 5 cs.

GOLD COATED PAPER

F. Murray Hill Co., Stuttgart, Bremen, 4 cs.

TISSUE PAPER

F. C. Strype, C. of Fairbury, Helsingfors, 54 cs.
F. B. Vandegrift & Co., Lancastria, Liverpool, 10 cs.

TRACING PAPER

Phoenix Shipping Co., Cleveland, Hamburg, 1 cs.

COLORED PAPER

———, Stuttgart, Bremen, 14 cs.
E. Henningson Co., Stuttgart, Bremen, 2 cs.
Borden Riley Paper Co., Westernland, Antwerp, 15 cs.
D. F. Young, Cleveland, Hamburg, 13 cs.
S. Gilbert, Bremen, Bremen, 1 cs.
Whiting & Patterson Co., Inc., Bremen, Bremen, 3 cs.

DECALCOMANIA PAPER

C. W. Sellers, Stuttgart, Bremen, 2 cs.
L. A. Consmiller, Stuttgart, Bremen, 11 cs.
L. A. Consmiller, Cleveland, Hamburg, 5 cs.
C. W. Sellers, Cleveland, Hamburg, 17 cs.
C. W. Sellers, Bremen, Bremen, 5 cs.
L. A. Consmiller, Bremen, Bremen, 8 cs.

TRANSPARENT GREASEPROOF PAPER

———, Innoko, Rotterdam, 18 cs.

SULPHATE PAPER

Insight Paper Co., Stavangerfjord, Oslo, 200 rolls.

ENVELOPES

Globe Shipping Co., Stuttgart, Bremen, 59 cs.

COVER PAPER

International F'd'g. Co., Westphalia, Hamburg, 8 cs.

CAOUTCHOUC PAPER

American Express Co., Westphalia, Hamburg, 8 cs.

GUMMED PAPER

Happel & McAvoy, Westphalia, Hamburg, 3 cs.

PARCHMENT PAPER

Pitt & Scott, Majestic, Southampton, 1 cs.

CARD BOARD

American Express Co., Cleveland, Hamburg, 200 cs.

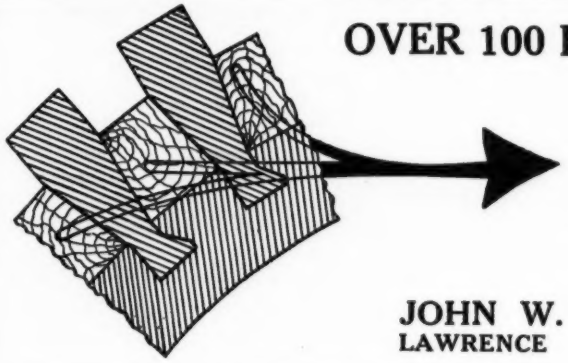
MISCELLANEOUS PAPER

Keller Dorian Paper Co., Rochambeau, Havre, 23 cs.
Standard Products Corp., Rochambeau, Havre, 183 cs.
Japan Paper Co., Rochambeau, Havre, 15 cs.
Public National Bank, Patria, Marseilles, 23 cs.
F. C. Strype, Hague Maru, Kokohama, 11 cs.
H. Reeve Angel & Co., Inc., Hague Maru, Yokohama, 7 cs.
Wilkinson Bros. & Co., Inc., Drottningholm, Gothenburg, 35 bls.
The Borregaard Co., Inc., Drottningholm, Gothenburg, 96 bls., 272 rolls.
Kraemer & Co., Drottningholm, Gothenburg, 233 bls.
Draeger Shipping Co., Cleveland, Hamburg, 3 cs.
International F'd'g. Co., Cleveland, Hamburg, 8 cs.
American Express Co., Cleveland, Hamburg, 26 cs.
Japan Paper Co., Paris, Havre, 13 cs.
G. E. Stechert, Paris, Havre, 8 cs.
Standard Products Corp., Paris, Havre, 226 cs.
F. J. Emmerich, Paris, Havre, 3 cs.
Distinctive Writing Paper Co., Paris, Havre, 10 cs.

RAGS, BAGGINGS, ETC.

Baring Bros. & Co., L. A. Christensen, Alexandria, 188 bls. rags.
Irving Trust Co., L. A. Christensen, Alexandria, 157 bls. rags.
Int'l. Germanic Trust Co., Waukegan, Dunkirk, 218 bls. bagging.
Irving Trust Co., Waukegan, Dunkirk, 68 bls. rags.
General Fibre Co., Innoko, Rotterdam, 55 bls. rags.
Merchants National Bank, Innoko, Rotterdam, 34 bls. rags.
Van Oppen & Co., Innoko, Rotterdam, 244 bls. bagging.
E. Mayer, California, Glasgow, 62 bls. bagging.
———, California, Glasgow, 100 bls. paper stock.
B. D. Kaplan, Drottningholm, Gothenburg, 40 bls. rags.
F. Stern, Cleveland, Hamburg, 137 bls. rags.
———, E. Francqui, Antwerp, 35 bls. rags.
———, Lepanto, Newcastle, 95 bls. rags, 51 bls. bagging.
Seidel & Herzog Co., Lepanto, Antwerp, 16 bls. bagging.
G. W. Millar & Co., Lepanto, Antwerp, 95 bls. flax waste.
V. Galaup, Lepanto, Antwerp, 65 bls. rags.

(*Continued on page 54*)



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FARREL INDICATING ROLL CALIPER

A light weight, very accurate instrument with which rolls can be calipered to the end of the face without reversing the instrument. Only two adjustments are necessary in changing from one diameter roll to another. Made in various sizes to suit requirements. Let us tell you more about it.

FARREL ROLLS are made in all sizes up to and including on the face. **298″**

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ANSONIA, CONN.

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{Birmingham Iron Foundry, Derby, Conn., Est. 1836.

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MADE BY **THE WATERBURY FELT CO.**
AT **SKANEATELES FALLS, N.Y.**

PAPER MAKERS FELTS AND JACKETS

Imports of Paper and Paper Stock

(*Continued from page 52*)

E. Mayer, Lepanto, Antwerp, 36 bls. rags.
Castle & Overton, Inc., Lepanto, Antwerp, 191 bls. rags.
Darmstadt, Scott & Courtney, Lepanto, Antwerp, 64 bls. cotton waste.
———, Valemore, London, 83 bls. rags.
Brown Bros. & Co., Valemore, Dundee, 42 bls. paper stock.
———, Arizpa, Oran, 192 bls. rags.
———, Arizpa, Algiers, 362 bls. rags.
Equitable Trust Co., Arizpa, Odessa, 218 bls. new cuttings; 656 bls. rags.
R. M. Gray, Inc., Winona, County, Manchester, 162 bls. rags.
American Rag Trading Co., Singapore Maru, Hamburg, 9 bls. rags.

OLD ROPE

Brown Bros. & Co., Westphalia, Hamburg, 85 coils.
Brown Bros. & Co., Ascania, London, 69 coils.
Brown Bros. & Co., Lepanto, Newcastle, 213 coils.
Brown Bros. & Co., Lepanto, Hull, 52 coils.
Irving Trust Co., Lepanto, Hull, 20 coils.
R. M. Gray, Inc., Winona County, Manchester, 6 coils.

CASEIN

Crawford Keen Co., Western Prince, B. Ayres, 100 bags, 50000 ks.
National City Bank, Western Prince, B. Ayres, 228 bags, 10216 ks.
Atterbury Bros. Inc., Western Princ, B. Ayres, 834 bags, 110310, lbs.
A. Hurst & Co., Vandyck, B. Ayres, 417 bags.
Kalbfleisch Corp., Vandyck, B. Ayres, 344 bags.

WOOD PULP

Lagerloef Trading Co., C. of Fairbury, Raumo, 1750 bls. wood pulp, 291 tons.
Lagerloef Trading Co., Kolsnaren, Tolkis, 520 bls. sulphite.
Lagerloef Trading Co., Kolsnaren, Kotka, 458 bls. sulphite; 765 bls. sulphate.
E. M. Sergeant & Co., Stavangerfjord, Oslo, 50 bls. wood pulp.
Atterbury Bros. Inc., Stavangerfjord, Oslo, 1250 bls. wood pulp.
Johanson Wales & Sparre, Inc., Drottningholm, Gothenburg, 1000 bls. sulphate; 299 bls. dry soda pulp; 155 bls. wood pulp.
E. M. Sergeant & Co., Drottningholm, Gothenburg, 598 bls. dry soda pulp.
Perkins, Goodwin & Co., Drottningholm, Gothenburg, 127 bls. sulphite.
Castle & Overton, Inc., Cleveland, Hamburg, 260 bls. wood pulp, 39 tons; 1091 bls. wood pulp, 163 tons.
———, Cleveland, Hamburg, 260 bls. wood pulp, 52 tons.
Atterbury Bros. Inc., Tyrifjord, Oslo, 510 bls. wood pulp.
Price & Pierce, Ltd., Havo, Wallvik, 600 bls. sulphate, 100 tons; 2400 bls. sulphite, 400 tons.
J. Andersen & Co., Kelkheim, Hernosand, 1800 bls. sulphite, 300 tons.
———, Kelkheim, Hernosand, 1920 bls. sulphate, 320 tons.
———, Kelkheim, Hernosand, 10200 bls. sulphite, 1700 tons.
M. Gotensman & Co., Inc., Maria, Sebenico, 800 bls. wood pulp.

WOOD FLOUR

B. L. Soberski, Tyrifjord, Frederickstad, 3750 bags.

BOSTON IMPORTS

WEEK ENDING FEBRUARY 22, 1930

Equitable Trust Co., Innoko, Roterdam, 119 bls. bagging.
T. M. Duche & Son, Brazilian Prince, B. Ayres, 417 bags casein.
G. M. Graves Co., Bellhaven, Glasgow, 298 bls. paper stock.
Train Smith & Co., Bellhaven, Glasgow, 88 bls. paper stock.
G. M. Millar & Co., Bellhaven, Glasgow, 102 bls. paper stock.
Atterbury Bros. Inc., 80 bls. paper stock.
Brown Bros. & Co., Bellhaven, Glasgow, 46 bls. paper stock.
Baring Bros. & Co., 13 bls. paper stock.
R. Wilson Paper Corp., Bellhaven, Glasgow, 39 rolls paper.
G. F. Malcolm, Lancastria, Liverpool, 23 cs. tissue paper.
Bulkley, Dunton & Co., Havo, ———, 6375 bls. wood pulp.
Pagel, Horton & Co., Inc., Havo, Gefle, 2875 bls. wood pulp.
Price & Pierce, Ltd., Havo, Wallvik, 750 bls. sulphate, 125 tons, 4350 bls. sulphite, 725 tons.
———, Kelkheim, Hernosand, 1800 bls sulphate, 300 tons.
———, Kelkheim, Hernosand, 2112 bls. sulphite, 352 tons.
Irving Trust Co., Kelkheim, Hernosand, 1500 bls. sulphate, 250 tons.
M. Gottesman & Co., Inc., Maria, Sebenico, 3360 bls. wood pulp.
Bulkley, Dunton & Co., Orla, ———, 3250 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING FEBRUARY 22, 1930

Lagerloef Trading Co., C. of Fairbury, Raumo, 13277 bls. wood pulp, 2261 tons.
Lagerloef Trading Co., Kolsnaren, Tolkis, 2860 bls. sulphite.
Lagerloef Trading Co., Kolsnaren, Kotka, 6508 bls. sulphite; 550 bls. sulphate

BALTIMORE IMPORTS

WEEK ENDING FEBRUARY 22, 1930

United Bag & Paper Exchange, Waukegan, Dunkirk, 97 bls. rags.
S. Shapiro, Hague Maru, Kobe, 200 bls. rags.
United Rag & Paper Exchange, Hague Maru, Kobe, 125 bls. rags.
G. M. Graves Co., Bellhaven, Glasgow, 237 bls. paper stock.
Ohio Boxboard Co., Bellhaven, Glasgow, 113 bls. paper stock.
Price & Pierce, Ltd., Havo, Stugsund, 500 bls wood pulp, 100 tons.
Price & Pierce, Ltd., Havo, Wallvik, 250 bls. wood pulp, 50 tons; 3996 bls. sulphate, 666 tons; 8520 bls. sulphite, 1420 tons.
W. Steck & Co., Anaconda, Antwerp, 113 bls. jute card waste.
Congoleum Nairn Co., Anaconda, Antwerp, 1029 bls. rags; 412 bls. bagging.
S. Shapiro, Anaconda, Antwerp; 42 bls. rags.
E. Mayer, Anaconda, Antwerp, 29 bls. rags.
Bulkley, Dunton & Co., Gorm, ———, 400 bls. wood pulp.
Bulkley, Dunton & Co., Carlsholm, ———, 14750 bls. wood pulp.
Bulkley, Dunton & Co., Crefeld, ———, 1125 bls. wood pulp.

NEWPORT-NEWS IMPORTS

WEEK ENDING FEBRUARY 22, 1930

Price & Pierce, Ltd., Havo, Wallvik, 8802 bls. sulphate, 1467 tons.
J. Andersen & Co., Kelkheim, Hernosand, 1200 bls. sulphite, 200 tons.
———, Kelkheim, Hernosand, 5070 bls. sulphite, 845 tons.
———, Kelkheim, Hernosand, 4572 bls. sulphate, 762 tons.

PHILADELPHIA IMPORTS

WEEK ENDING FEBRUARY 22, 1930

V. Galaup, Exchange, Leghorn, 72 bls. rags.
———, Tyrifjord, Oslo, 71 rolls news print.
Perkins, Goodwin & Co., Tyrifjord, Oslo, 600 bls. wood pulp.
National City Bank, Tyrifjord, Oslo, 600 bls. wood pulp.
Atterbury Bros., Inc., Tyrifjord, Oslo, 1500 bls. wood pulp.
Chemical Bank & Trust Co., Tyrifjord, Tofte, 3600 bls. wood pulp.
J. Andersen & Co., Tyrifjord, Greaker, 1350 bls. wood pulp.
———, Arizpa, Algiers, 66 coils old rope.
Equitable Trust Co., Arizpa, Novorossisk, 1145 bls. rags.

NORFOLK IMPORTS

WEEK ENDING FEBRUARY 22, 1930

British American Tobacco Co., Anaconda, Antwerp, 126 cs. printed cigarette wrappers.
E. Butterworth & Co., Inc., Anaconda, Antwerp, 164 bls. bagging.
Darmstadt, Scott & Courtney, Anaconda, Antwerp, 170 bls. bagging.
Bank of New York, Anaconda, Antwerp, 185 bls. bagging.
Katzenstein & Keene, Inc., Anaconda, Antwerp, 143 bls. rags.

News of the Boston Paper Trade

BOSTON, Mass., February 24, 1930.—The Champion Coated Paper Company have put their papers on the mill brand basis on the Atlantic Coast. They are issuing a series of folders and booklets containing elaborate descriptive matter of interest to the buyer of printing, the printer and the paper merchant. The articles, which include much valuable information, are written by experts in their respective lines. The plant of the Champion Coated Paper Company at Hamilton, Ohio, is busy, operating to full capacity.

Robert Butterworth, manager of the Chicago office of the Champion Coated Paper Company, returning from the convention at New York, passed through Boston Friday on the way to his old home near Concord, N. H., where he will spend a few days.

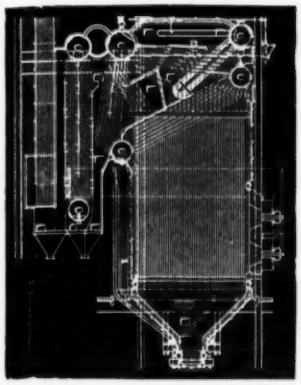
The third annual meeting of the T. C. Greene Paper Company was held at the office of the company, 10 High street, February 18. The officers and directors of the company elected were T. C. Greene, president and treasurer; Roger B. Tyler, secretary, and John L. Munro. Mr. Greene states that the business has shown a substantial increase each year since incorporation.

Percy D. Wells has taken on the distribution of Riviera Strata Laid Book and Announcement, carried in white and seven colors, and of Hollingsworth Basic Bond. Mr. Wells has put in a full line of Priscilla Cut Cards and Wellsworth Announcements.

The Plymouth Cordage Company displayed their products at the Thirty-Seventh Annual Hardware Convention and Exhibition at Mechanics Building, February 20-22, in an attractive booth. A feature of the exhibit was an arrangement of some of the products, in the form of a large cone, or rather a good portion of a cone, beginning with the larger cables at the base. The ropes, gradually tapering in size, were surmounted by a picture of the plant at Plymouth, Mass., and a lamp. Cords attached to the cables and ropes were extended on the right and left of the cone to photographs illustrating the uses of the respective products. Among other products shown was binder twine.

Adna C. Denison, paper dealer, has removed from 159 Devonshire street to a new building at Newbury and Dartmouth streets.

John Carter & Co., Inc., and Cook-Vivian Company are to distribute in the Boston territory the new line of Persian Oriental, made by the Carew Manufacturing Company, South Hadley Falls, Mass.



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prevent grooving of Seams on machines not equipped with oscillating Suction Boxes. This lengthens the life of wires and increases their production.

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"EXCELSIOR" FELTS

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Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
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Old Plates Reclosed and Re-cut to Accurate Gauge
Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the Union Witham Screen Plate Vat and Fastener

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 26, 1930.

Trading in the local paper market was more active during the past week, due to some extent to the opportunities to get together afforded by the convention. Demand for practically all the different standard grades of paper were persistent and even greater activity is anticipated now that the spring campaign is under way. Prices are generally holding up to schedule and there is little talk of concessions around at the present time.

Conditions in the news print market are practically unchanged. A satisfactory solution of the price problem is looked for in the near future, in some quarters. According to the News Print Service Bureau, the total weighted average production in Canada and the United States was 77 per cent of capacity in the week ended February 8. Stocks in the hands of the mills are not excessive.

Some improvement was noticed in the paper board market. Demand for box board was more active but the price situation continues unsatisfactory. The fine paper market is exhibiting a strong undertone. Tissues are fairly steady. The coarse paper market is in a fairly sound position despite over-production in some branches of the industry. Wrapping paper is moving in good volume for the season.

Mechanical Pulp

Production of ground wood in the United States and Canada has been somewhat heavier of late, favored with more favorable weather conditions. Offerings are sufficient to take care of current requirements. Contract shipments are going forward in a satisfactory manner. Prices are generally holding to previously quoted levels and shading is infrequent.

Chemical Pulp

Business in the chemical pulp market was rather quiet during the past week. Producers are reported to be well sold ahead on the popular grades. Prices are slightly weaker. Imported bleached sulphite is now offered at from $3.25 to $4.25, on dock, Atlantic ports; easy bleaching is selling at from $2.80 to $3.05. No. 1 kraft pulp is quoted at from $2.30 to $2.50, and No. 2 kraft pulp at from $2.25 to $2.40.

Old Rope and Bagging

The position of the old rope market is practically unchanged. Demand for both imported and domestic old manila rope is about normal for the time of year. Mixed rope is moving in fair volume. Prices are practically unaltered, in most instances. The bagging market is moderately active. Scrap bagging is in fair request but gunny bagging is rather quiet. Demand for gunny bagging is seasonal.

Rags

Paper mill interest in the domestic rag market showed signs of awakening during the past week, probably on account of the fact that there were so many manufacturers in town for the convention from all parts of the country. Cotton cuttings were in persistent request at formerly quoted levels. Roofing rags are in seasonal demand at steady prices. Mixed rags are moving at a fair pace. The foreign rag market is practically unchanged.

Waste Paper

Business in the local paper stock market was slightly better than of late. The board mills are beginning to display more interest in the lower grades and folded news and mixed paper, in particular, are moving more freely. The higher grades continue to move into consumption in excellent volume. Book stock is displaying strength.

Soft white shavings continue steady.

Twine

Steadiness prevails in the local twine market. Demand for the various grades is expanding and more lively trading is anticipated in the near future, in conjunction with the usual increased request for wrapping paper for Easter and Spring requirements. The contract movement is well up to average. Prices are holding to the levels which have been maintained for some time past.

SAFETY MEETING AT POWELL RIVER

(*Continued from page 26*)

O. A. Jorgenson, B. C. Pulp and Paper Company, Vancouver.

J. L. Hooper, Pac. Mills, Ltd., Ocean Falls.

L. E. Thorpe, Editor, *Pacific Pulp and Paper Industry*, Seattle, Wash.

R. F. Arnett, V. P., Westminster Paper Company, New Westminster, B. C.

F. R. Sievers, Sidney Roofing & Paper, Victoria.

E. R. Brown, Crown Willamette, Portland, Ore.

Ralph M. Roherg, Puget Sound Pulp & Timber, Everett, Wash.

Paul Rozell, Inland Empire Paper Company, Spokane, Wash.

R. J. Schadt, Hawley Pulp and Paper Company, Oregon City, Ore.

Roger Mullen, Cascade Paper Co., Tacoma, Wash.

J. E. Berkheimer, J. E. Berkheimer Manufacturing Company, Tacoma, Wash.; J. N. Stephen, Quincy, Cal.; L. A. Braken, Sheriff, Plumas County, Calif.

Phelps Dodge, Oregon Pulp and Paper Company, Portland, Ore.; L. H. Weber, Vancouver.; L. K. Wood, Union Bag and Paper Power Corp., Tacoma, Wash.

Economy Container Corp. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 24, 1930.—Articles of incorporation have been filed with the secretary of state in this city by the Economy Container Corporation having a principal place of business in Marion, Ind. The corporation has an initial capital stock of 1,000 shares having no declared par value and is formed "to manufacture and sell paper board and fiber containers of all kinds and sizes." The first board of directors is composed of Charles R. Garthwait, Robert R. Batton and Newton Miller.

Kalbfleisch Buys Superior Chemical Co.

"The Kalbfleisch Corporation announces that it has purchased the plant and business of the Superior Chemical Company of Joliet, Ill., manufacturers of Sodium Aluminum Sulphate, Ammonia Alum, Potash Alum, Sulphate of Alumina. The Superior Chemical Company will continue to operate as heretofore under the management of Mr. John W. Block."

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LOCKPORT, N. Y.
CARTHAGE, N. Y.
SAVANNAH, GA.
JACKSONVILLE, FLA.
PENSACOLA, FLA.
FARGO, GA.
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HYDRO - ELECTRIC AND STEAM
POWER PLANTS
PLANS-SPECIFICATIONS-EVALUATIONS
REPORTS - CONSULTATIONS

Jefferson St. Arcade, Dayton, O.
Guarantee Bldg., Montreal, P. Q.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February 26, 1930.

BLANC FIXE.—The blanc fixe market is in a sound position. Demand for both the pulp and the powder is fairly satisfactory. Prices are steady. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Conditions in the bleaching powder market are unchanged. Demand is moderately active and contract shipments are going forward at a normal pace. Prices are holding to schedule, in most instances. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—The casein market is exhibiting a strong undertone. Domestic casein is still quoted at from 14 cents to 16½ cents per pound, while Argentine standard ground is selling at from 14½ cents to 15 cents, and finely ground at from 15 cents to 15½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Most of the business transacted in the caustic soda market was along routine lines. Shipments against contract are moving in fair volume. Solid caustic soda is quoted at from $2.90 to $2.95, and the flake and the ground at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market pursues the even tenor of its way. The contract movement is well up to average. Prices generally remain unaltered. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Some improvement was noticed in the chlorine market. Demand was more active than of late. Shipments against contract were fairly heavy. No further price changes were reported during the week. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Demand for rosin was fairly persistent. Prices were practically unchanged. The grades of gum rosin used in the paper mills are quoted at from $8.10 to $8.70 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $6.50 to $7.65 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—The salt cake market continues to exhibit a firm tendency. While demand from the mills is heavy, offerings are decidedly scarce. Prices continue steady and unchanged. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Production of soda ash is being maintained in sufficient volume to take care of current requirements. Contract shipments are moving in a normal manner. Prices remain unchanged. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55.

STARCH.—No radical changes were recorded in the starch market. Demand for this product from the paper mills is mostly along routine lines. Prices are generally holding to previously quoted levels. Special paper making starch is quoted at $3.82 per 100 pounds, in bags, and at $4.09 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Paper mill demand for sulphate of alumina is fairly persistent. The contract movement is seasonal. Prices are holding to schedule, without difficulty. Commercial grades are still quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Steadiness prevails in the sulphur market. Prices remain unchanged. Sulphur is quoted at $18 per ton, at mine, for orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and nearby car loads the quotation is $21 per ton.

TALC.—Trading in the talc market was fairly active during the past week. Contract shipments are moving at a regular pace for the time of year. Prices are unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	9.00	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	8.00	@	11.00
Book, Cased—			
S. & S. C.	6.00	@	7.50
M. F.	5.75	@	7.00
Coated and Enamel	7.50	@	12.00
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.75	@	1.00
Anti-Tarnish	1.35	@	1.90
Colored	1.00	@	2.00
White No. 2	.75	@	.80
Kraft	1.00	@	1.10
Manila	.75	@	.80
Kraft—			
No. 1 Domestic	6.00	@	6.50
No. 2 Domestic	3.87½	@	5.00
Southern	3.75	@	4.50
Imported	6.50	@	7.00
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.75	@	5.25
No. 2 Wood	4.00	@	4.50
Butchers	3.75	@	4.25
Fibre Papers—			
No. 1 Fibre	5.00	@	5.50
No. 2 Fibre	4.75	@	5.25
Common Bogus	2.75	@	3.00
Screenings	3.00	@	3.25
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs.	13.00	@	16.00
Bleached, basis 20 lbs.	15.00	@	16.00

(Delivered New York)

News, per ton—			
Rolls, contract	62.00	@	—
Rolls, spot	62.00	@	—
Sheets	67.00	@	—
Side Runs	47.00	@	52.00
Boards—per ton—			
News	37.50	@	40.00
Straw	52.50	@	55.00
Chip	35.00	@	37.50
Binders' Boards	65.00	@	70.00
Wood Pulp	80.00	@	85.00
65 Test Jute Liner	45.00	@	47.50
85 Test Jute Liner	50.00	@	55.00
Sgl. Mla. Ll. Chip	47.50	@	50.00

Mechanical Pulp
(On Dock)

No. 1 Imported—			
Moist	30.00	@	32.00
Dry	32.00	@	34.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@	32.00
Screenings	15.00	@	20.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	3.25	@	4.25
Easy Bleaching	2.80	@	3.05
No. 1 strong unbleached	2.65	@	2.75
Mitscherlich unbleached	2.70	@	3.00
No. 2 strong unbleached	2.40	@	2.60
No. 1 Kraft	2.30	@	2.50
No. 2 Kraft	2.25	@	2.40
Sulphate—			
Bleached	3.40	@	3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	3.20	@	4.75
Easy Bleaching Sulphite	2.65	@	3.00
News Sulphite	2.50	@	2.70
Mitscherlich	3.00	@	3.25
Kraft (Domestic)	2.10	@	3.30
Soda Bleached	3.10	@	3.25
Sulphate Screenings—			
Coarse	.75	@	.95
Refined	1.65	@	1.85

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	9.50	@	10.50
New White, No. 2	7.50	@	8.00
Silesias No. 1	7.50	@	8.00
New Unbleached	10.50	@	11.00
New Blue Prints	5.25	@	5.50
New Soft Blacks	5.25	@	5.75
Blue Overall	7.25	@	7.75
Washables	4.75	@	5.25
Fancy	5.50	@	6.00
Mixed Khaki Cuttings	4.75	@	5.25
Pink Corset Cuttings	8.00	@	8.50
O. D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.75	@	4.25
New Mixed Blacks	3.50	@	3.75

Old Rags

White, No. 1—			
Repacked	5.50	@	6.00
Miscellaneous	4.50	@	5.00
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.50	@	2.75
St. Soiled, White	2.00	@	2.15
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.70	@	1.80
No. 1	1.70	@	1.80
No. 2	1.55	@	1.65
No. 3	1.30	@	1.40
No. 4	1.25	@	1.35
No. 5A	.90	@	1.05

Foreign Rags
New Rags

New Dark Cuttings	2.50	@	3.00
New Mixed Cuttings	2.75	@	3.25
New Light Silesias	7.00	@	7.50
Light Flannelettes	7.50	@	8.00
Unbleached Cuttings	10.00	@	11.00
New White Cuttings	10.00	@	10.50
New Light Oxfords	7.00	@	7.50
New Light Prints	5.50	@	6.50

Old Rags

No. 1 White Linens	7.25	@	8.00
No. 2 White Linens	5.75	@	6.75
No. 3 White Linens	4.75	@	5.25
No. 4 White Linens	3.00	@	3.50
No. 1 White Cotton	5.50	@	6.50
No. 2 White Cotton	4.50	@	5.50
No. 3 White Cotton	3.00	@	4.00
No. 4 White Cotton	2.00	@	2.10
Extra Light Prints	2.75	@	3.25
Ord. Light Prints	2.25	@	2.50
Med. Light Prints	1.95	@	2.10
Dutch Blue Cottons	2.20	@	2.35
French Blue Linens	2.75	@	2.85
German Blue Linens	2.35	@	2.55
German Blue Cottons	2.10	@	2.20
Checks and Blues	1.85	@	2.00
Lindsay Garments	1.85	@	1.95
Dark Cottons	1.50	@	1.55
Old Shopperies	1.45	@	1.50
New Shopperies	1.40	@	1.45
French Blues	2.10	@	2.25

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.60	@	1.70
Wool Tares, light	1.60	@	1.65
Wool Tares, Heavy	1.60	@	1.70
Bright Bagging	1.60	@	1.70
Small Mixed Rope	1.25	@	1.40
Manila Rope—			
Foreign	4.25	@	4.40
Domestic	4.25	@	4.50
New Burlap Cut	2.75	@	3.00
Hessian Jute Threads—			
Foreign	3.50	@	4.00
Domestic	3.25	@	3.50

Old Waste Papers
(F. o. b. New York)

Shavings—			
Hard, white, No. 1	3.00	@	3.25
Hard, white, No. 2	2.40	@	2.55
Soft, White, No. 1	2.40	@	2.55
White envelope cuttings	2.90	@	3.10
Flat Stock—			
Stitchless	1.45	@	1.55
Overissue Mag.	1.45	@	1.55
Solid Flat Book	1.40	@	1.50
Crumpled No. 1	1.00	@	1.10
Solid Book Ledger	2.00	@	2.10
Ledger Stock	1.40	@	1.50
New B. B. Chips	.45	@	.55
Manilas—			
New Env. Cut	2.40	@	2.60
New Cuttings	1.50	@	1.75
Extra No. 1 old	1.25	@	1.35
Print	.60	@	.65
Container	.40	@	.50
Bogus Wrapper	.60c	@	.65
Old Kraft Machine Compressed bales	1.65	@	1.75
News—			
No. 1 White News	1.65	@	1.75
Strictly Overissue	.55	@	.65
Strictly Folded	.45	@	.55
No. 1 Mixed Paper	.25	@	.30
Common Paper	.15	@	.65

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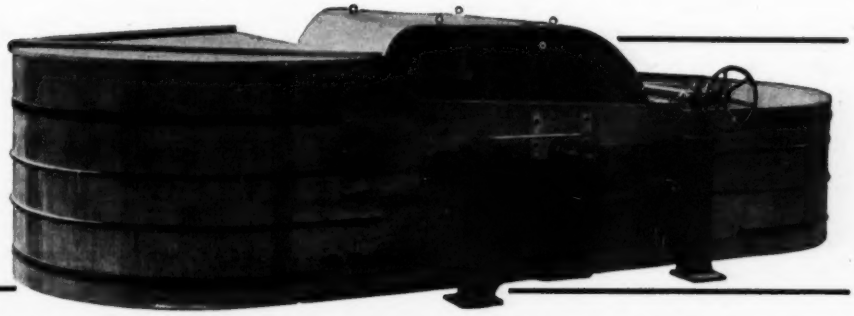

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Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¾
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07½
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	2.60	@	2.65
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (overissue	.60	@	.65
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.40	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	04
No. 2 Kraft	.04¾	@	.05
No. 1 Kraft	.05	@	.06
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03¾
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.04½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.20	@	3.25
No. 2 Hard White	2.75	@	3.00
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.80	@	1.90
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.85	@	1.90
Writing Paper	1.30	@	1.40
No. 1 Books, heavy	1.25	@	1.35
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.40	@	.50
Container Manila	.25	@	.35
Old Kraft	1.60	@	1.70
Common paper	.15	@	.20
No. 1 Mixed Paper	.15	@	.20
Straw Board, Chip	.40	@	.50
Binders Board, Chip	.35	@	.45
Overissue News	.60	@	.70
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
White, No. 2	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01½	@	.01½
No. 2	1.20	@	1.25
No. 3 (Roofing)	1.10	@	1.20
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.03¾	@	.05
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard			
Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	—	@	1.50
Print Manila	.80	@	.90
No. 1 Mixed Paper	27.50	@	—
Overissue News	.45	@	.55
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.50

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.55
Manila Rope—			
Foreign	—	@	4.40
Domestic	—	@	4.50
Transmission Rope	—	@	2.75
Mixed Strings	.90	@	1.00
Jute Wool Strings	1.00	@	1.05
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	—	@	1.35
Scrap Sisal	1.55	@	1.75
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	3.00	@	3.12½

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08½	@	—
Silesias No. 1	.06	@	.06¼
New Unbleached	.09¾	@	—
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.45	@	1.50
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.75	@	5.00
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.00		—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	31.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¾	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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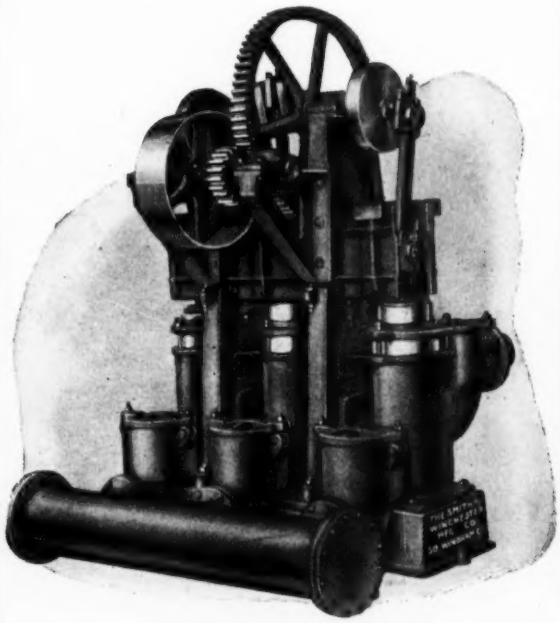

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PAPER TRADE JOURNAL

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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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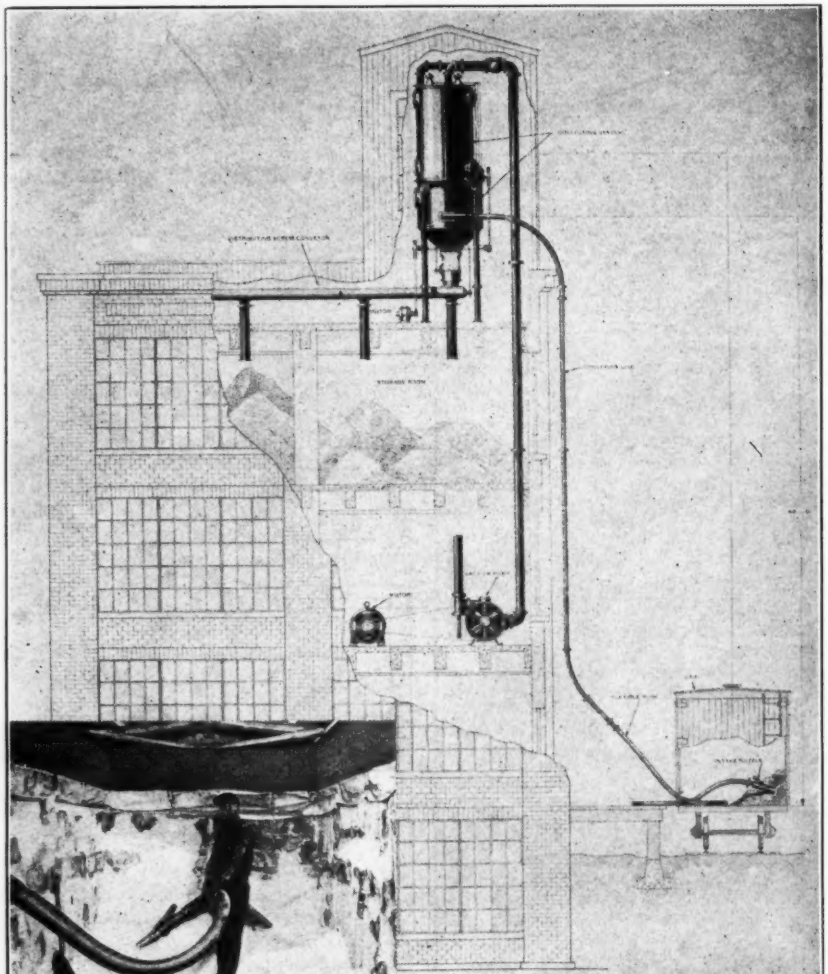
CLAY

PULVERIZED AND AIR WASHED



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